IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

UNILOC 2017 LLC		
Plaintiff,	§	CIVIL ACTION NO. 2:18-cv-00553
v.	§	PATENT CASE
GOOGLE LLC,	§	
Defendant.	§	JURY TRIAL DEMANDED

ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Uniloc 2017 LLC ("Uniloc"), as and for their complaint against defendant Google LLC ("Google") allege as follows:

THE PARTIES

1. Uniloc is a Delaware limited liability company having places of business at 620 Newport Center Drive, Newport Beach, California 92660 and 102 N. College Avenue, Suite 303, Tyler, Texas 75702.

2. Uniloc holds all substantial rights, title and interest in and to the asserted patent.

3. On information and belief, Google, a Delaware corporation with its principal office at 1600 Amphitheatre Parkway, Mountain View, CA 94043. Google offers its products and/or services, including those accused herein of infringement, to customers and potential customers located in Texas and in the judicial Eastern District of Texas.

JURISDICTION

4. Uniloc brings this action for patent infringement under the patent laws of the United States, 35 U.S.C. § 271 *et seq.* This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

5. This Court has personal jurisdiction over Google in this action because Google has committed acts within the Eastern District of Texas giving rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over Google would not offend traditional notions of fair play and substantial justice. Google has committed and continues to commit acts of infringement in this District by, among other things, offering to sell and selling products and/or services that infringe the asserted patent.

6. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391 and 1400(b). Google is registered to do business in Texas, and upon information and belief, Google has transacted business in the Eastern District of Texas and has committed acts of direct and indirect infringement in the Eastern District of Texas. Google has a regular and established place of business in this District, as set forth below.

7. Google is a multinational technology company that collects, stores, organizes, and distributes data. In addition to its service model for distribution of data (e.g., movies, search results, maps, music, etc.), Google has an expansive regime that gathers data on residents of this District through the hardware devices it sells (e.g., phones, tablets, and home audio devices) and, also, through the operating systems and apps it provides. As an example, Google gathers data when a resident runs its operating systems and apps (e.g., location services).[1] As another example, Google gather's data when a resident interacts with Google's plethora of services such as search, email, and music and movie streaming. *See* https://safety.google/privacy/data/ (indicating that Google gathers data from "things you search for," "Videos you watch," "Ads you view or click," "Your location," "Websites you visit," and "Apps, browsers, and devices you use to access Google

[1] *See* e.g., "AP Exclusive: Google tracks your movements, like it or not," https://apnews.com/828aefab64d4411bac257a07c1af0ecb/AP-Exclusive:-Google-tracks-your-movements,-like-it-or-not

services"). As yet another example, Google gathers data by listening and recoding everything a resident says within proximity of one of its products such as Google Home.[2] Others have reported that Google gathers "where you've been," "everything you've ever searched – and deleted," "all the apps you use," "all of your YouTube history," "which events you attended, and when," "information you deleted [on your computer]," "your workout routine," "years' worth of photos," and "every email you ever sent."[3]

8. Google takes these massive amounts of gathered data on residents of this district and monetizes them, for example, through targeted advertising. Some have reported that "creepy" advertisements for items never searched for, but only spoken out loud appeared. *See* e.g., https://www.youtube.com/watch?v=zBnDWSvaQ1I (conducting test on the term "dog toys" spoken out loud, but never searched; tester claims targeted "dog toy" advertisements only appeared after speaking the phrase out loud).

9. In addition to extensive data gathering of information on residents of this District, Google has a substantial presence in the District directly through the products and services Google provides residents of this District (some of which also gather data).[4] One of Google's main businesses in this District is delivering information, including digital content such as movies, music, apps, and advertising.

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[2] *See* https://www.unilad.co.uk/technology/google-is-listening-to-everything-we-say-and-you-can-hear-it-back/ ("Tech giant and the font of all pub quiz knowledge, Google, can quietly record many of the conversations that people have in close proximity to its products.").

[3] *See* https://www.theguardian.com/commentisfree/2018/mar/28/all-the-data-facebook-google-has-on-you-privacy.

[4] Non-limiting examples include Google Search, Maps, Translate, Chrome Browser, YouTube, YouTube TV, Google Play Music, Chromecast, Google Play Movies and TV, Android Phones, Android Wear, Chromebooks, Android Auto, Gmail, Google Allo, Google Duo, Google+, Google Photos, Google Contacts, Google Calendar, Google Keep, Google Docs, Google Sheets, Google Slides, Google Drive, Google Voice, Google Assistant, Android operating system, Project Fi Wireless phone systems, Google Pixel, Google Home, Google Wifi, Daydream View, Chromecast Ultra.

10. Google describes itself as an "information company."[5] Its vision is "to provide access to the world's information in one click," and its mission is "to organize the world's information and make it universally accessible and useful."[6] Making information available to people wherever they are and as quickly as possible is critical to Google's business.

Google Global Cache (GGC)

11. As Google's CEO, Sundar Pichai, explains, "We want to make sure that no matter who you are or where you are or how advanced the device you are using—Google works for you."[7] To meet this goal, Google developed a content delivery network that it calls the Edge Network.

12. One non-limiting example of physical presence in this District is Google's Edge Network. Google provides web-based services, such as YouTube, YouTube TV, and Google Play, to users throughout the world. These services are in high demand. Google reports that Google Play reaches more than 1 billion Android users and that YouTube serves over 1.8 billion users per month.[8] Studies show that YouTube alone is responsible for approximately 20% of all internet traffic.[9] YouTube TV, which has been described as an "add-on to YouTube" allows Google to essentially become the local TV provider for residents of this District. For example, residents in this District obtain local Dallas-Fort Worth area channels such as WFAA, ABC (Channel 8); CBS (Channel 11); NBC (Channel 5); and Fox (Channel 4).[10]

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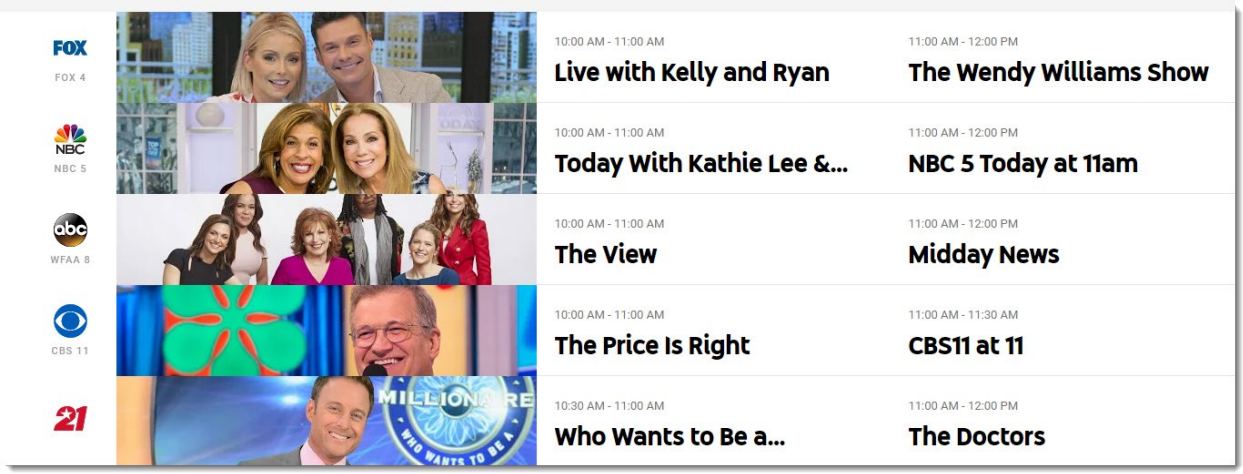
[5] *See* "This Year's Founder's Letter" by Alphabet CEO, Sundar Pichai, https://blog.google/inside-google/alphabet/this-years-founders-letter/.
[6] http://panmore.com/google-vision-statement-mission-statement.
[7] *See* e.g., http://time.com/4311233/google-ceo-sundar-pichai-letter/.
[8] *See* https://www.theverge.com/2018/5/3/17317274/youtube-1-8-billion-logged-in-monthly-users-brandcast-2018
[9] *See* https://www.sandvine.com/hubfs/downloads/archive/2016-global-internet-phenomena-report-latin-america-and-north-america.pdf and http://testinternetspeed.org/blog/half-of-all-internet-traffic-goes-to-netflix-and-youtube/
[10] *See*, e.g. https://support.google.com/youtubetv/answer/7068923?hl=en and https://support.google.com/youtubetv/answer/7370552?hl=en&ref_topic=7071745.



Source: https://tv.youtube.com/live (as accessed from this District).

To verify a resident should receive such local channels, Google verifies a location of such resident.

13. Google's Edge Network, itself, has three elements: Core Data Centers, Edge Points of Presence, and Edge Nodes. The Core Data Centers (there are eight in the United States) are used for computation and backend storage. Edge Points of Presence are the middle tier of the Edge Network and connect the Data Centers to the internet. Edge Nodes are the layer of the network closest to users. Popular content, including YouTube TV, YouTube, video advertising, music, mobile apps, and other digital content from the Google Play store, is cached on the Edge Nodes, which Google refers to as Google Global Cache or "GGC".

14. Google Global Cache is recognized as "one of Google's most important pieces of infrastructure,"[11] and Google uses it to conduct the business of providing access to the world's information. GGC servers in the Edge Nodes function as local data warehouses, much like a shoe manufacturer might have warehouses around the country. Instead of requiring people to obtain information from distant Core Data Centers, which would introduce delay, Google stores information in the local GGC servers to provide quick access to the data.

[11] http://blog.speedchecker.xyz/2015/11/30/demystifying-google-global-cache/.

15. Caching and localization are vital for Google's optimization of network resources. Because hosting all content everywhere is inefficient, it makes sense to cache popular content and serve it locally. Doing so brings delivery costs down for Google, network operators, and internet service providers. Storing content locally also allows it to be delivered more quickly, which improves user experience. Serving content from the edge of the network closer to the user improves performance and user happiness. To achieve these benefits, Google has placed Edge Nodes throughout the United States, including in this District. Google describes these nodes as the workhorses of video delivery.

16. Just like brick-and-mortar stores, Google's GGC servers independently determine what content to cache based on local requests. The GGC servers in Google's Edge Nodes include software that Google refers to as "µstreamer." µstreamer is responsible for serving video content from YouTube and other Google services, along with other large content such as Google Play applications and Chrome downloads. It operates on a content-delivery platform at the edge of Google's network called "bandaid"; it does not run in the core (except for some internal testing purposes), unlike the majority of the Google services, such as search or gmail.

17. Using µstreamer and bandaid, a GGC server handles requests directly from its clients, predominantly YouTube's video players. When such a request is received, if the content is stored in the node's local cache, the node will serve it to the end user, improving the user experience and saving bandwidth. If cache-eligible content is not already stored on the node, and the content is cache-eligible, the node will retrieve it from Google, serve it to the user, and store it for future requests.

18. µstreamer is largely autonomous, in the sense that almost all decisions related to serving a particular request are made locally, without coordinating with other servers. Like a brick-and-mortar store sells directly to customers from inventory and stocks that inventory based

on local customer demand, µstreamer in each GGC node decides—independently from other nodes in Google's Edge Network— whether to serve requested content, whether to cache content, and whether to send requests to other servers.

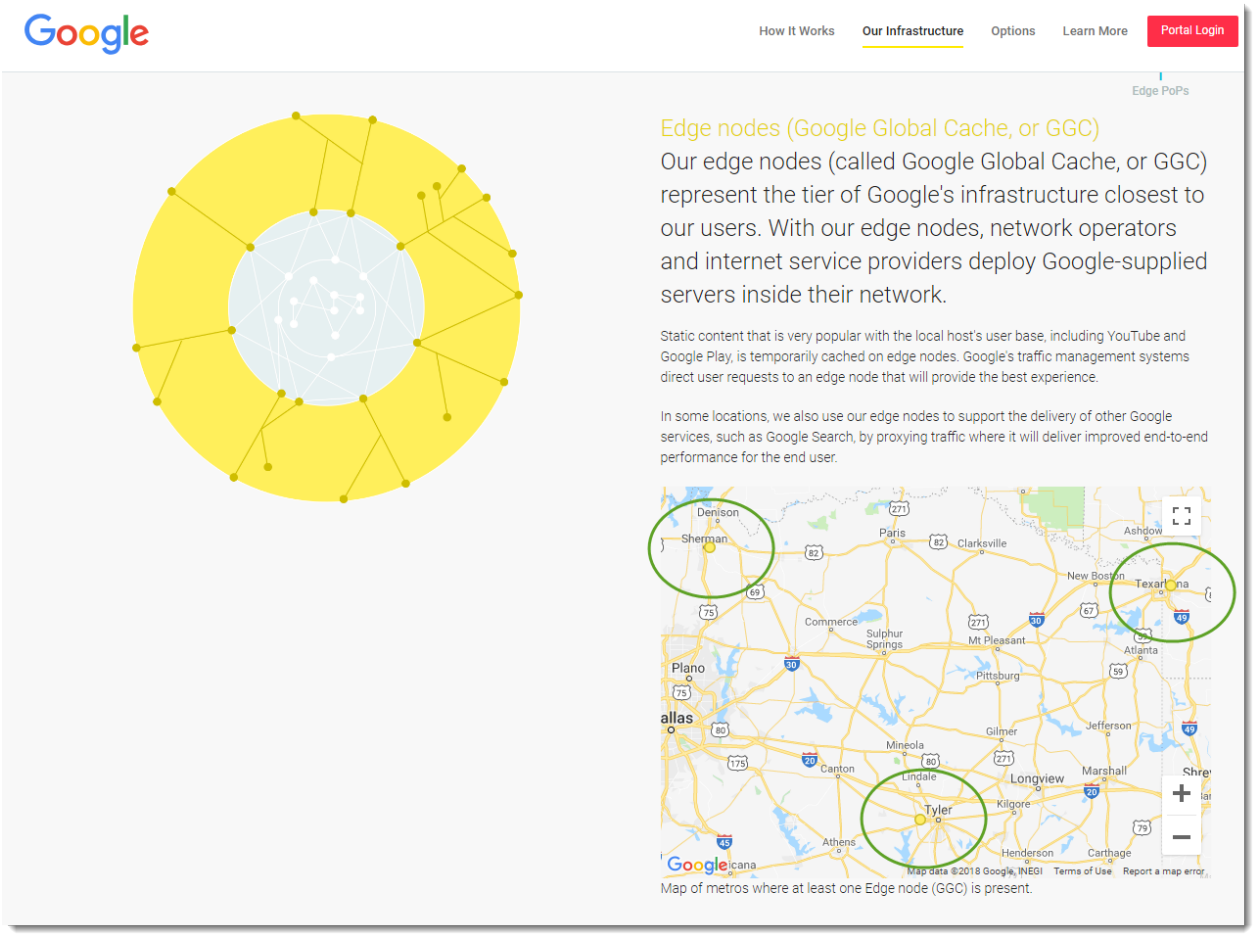
19. Google's GGC servers are housed in spaces in the District leased by Google. Google's GGC servers are housed in spaces leased by Google from Internet Service Providers (ISPs) whose networks have substantial traffic to Google and are interested in saving bandwidth. Hosting Google servers allows ISPs to save both bandwidth and costs, as they do not incur the expense of carrying traffic across their peering and/or transit links.

20. When an ISP agrees to host a GGC server, the parties enter into a Global Cache Service Agreement, under which Google provides:

- hardware and software— including GGC servers and software—to be housed in the host's facilities;
- technical support; service management of the hardware and software; and
- content distribution services, including content caching and video streaming.

In exchange, the host provides, among other things, a physical building, rack space where Google's computer hardware is mounted, power, and network interfaces. All ownership rights, title, and intellectual property rights in and to the equipment (i.e., the hardware and software provided by Google) remain with Google and/or its licensors.

21. Multiple ISPs hosted GGC servers are in this District. Google provides the location of its GGC servers, namely Sherman, Tyler, and Texarkana.



Map of metros where at least one Edge node (GGC) is present.

Source: https://peering.google.com/#/infrastructure

22. Suddenlink Communications, for example, is an ISP that hosts six GGC servers in Tyler, Texas.

23. CableOne is an ISP that hosts three GGC servers in Sherman, Texas, and three GGC servers Texarkana, Texas.

24. Google caches content on these GGC servers located in this District.

25. Google's GGC servers located in this District cache content that includes, among other things: (i) video advertising; (ii) apps; and (iii) digital content from the Google Play store.

26. Google's GGC servers located in this District deliver cached content for the items in the preceding paragraph to residents in this District.

27. Google generates revenue (i) by delivering video advertising, (ii) from apps,

and (iii) from digital content in the Google Play store.

28. Google treats its GGC servers in this District the same as it treats all of its other GGC servers in the United States.

29. The photographs below show Google's GGC servers hosted by Suddenlink and the building where they are located at 322 North Glenwood Boulevard, Tyler, Texas 75702.

Exterior

Interior Rack Spaces

Google GGC Servers

30. Google not only exercises exclusive control over the digital aspects of the GGC, Google, but also exercises exclusive control over the physical server and the physical space within which the server is located and maintained.

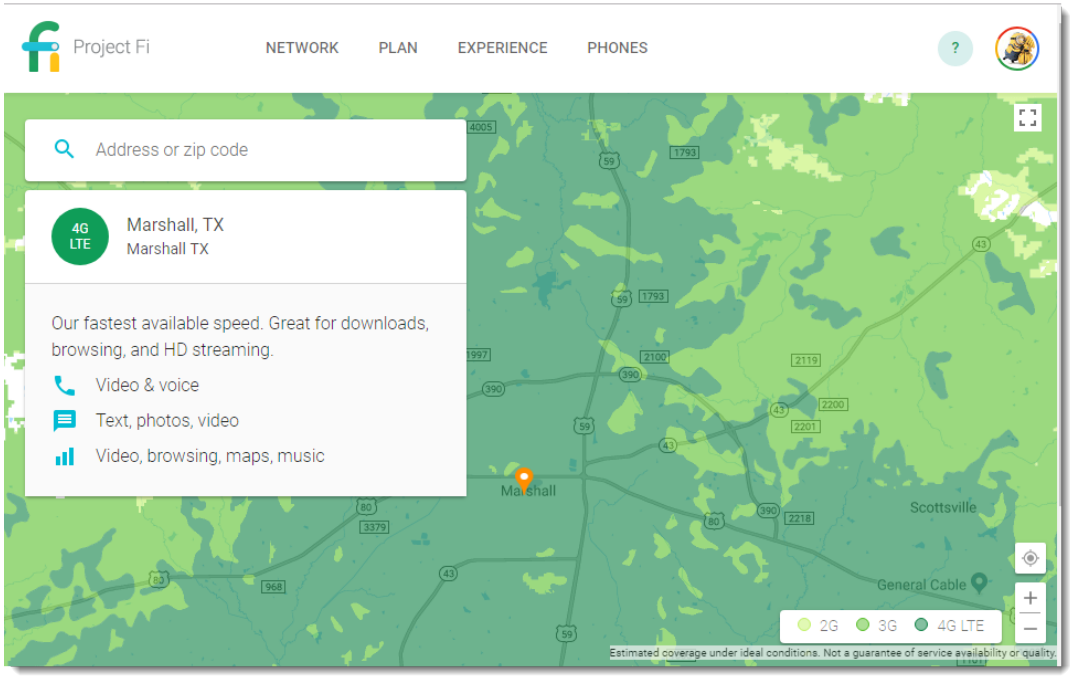
31. This District has previously determined that the GGC server itself and the place of the GGC server, both independently and together, meet the statutory requirement of a "physical place." *See Seven Networks, LLC v. Google, LLC*, Case No. 2:17-cv-00442-JRG (E.D. Tex)(Jul. 19, 2018) at Page 24.

32. Likewise, this District has determined that GGC servers and their several locations within this District constitute "regular and established place[s] of business" within the meaning of the special patent venue statute *See Seven Networks, LLC v. Google, LLC*, Case No. 2:17-cv-00442-JRG (E.D. Tex.)(Jul. 19, 2018) at page 38.

33. Similarly, this District has determined that the GGC servers and their locations within the various ISPs within this District are "places of Google" sufficient to meet the statutory requirement of § 1400(b). *See Seven Networks, LLC v. Google, LLC*, Case No. 2:17-cv-00442-JRG (E.D. Tex.)(Jul. 19, 2018) at page 41.

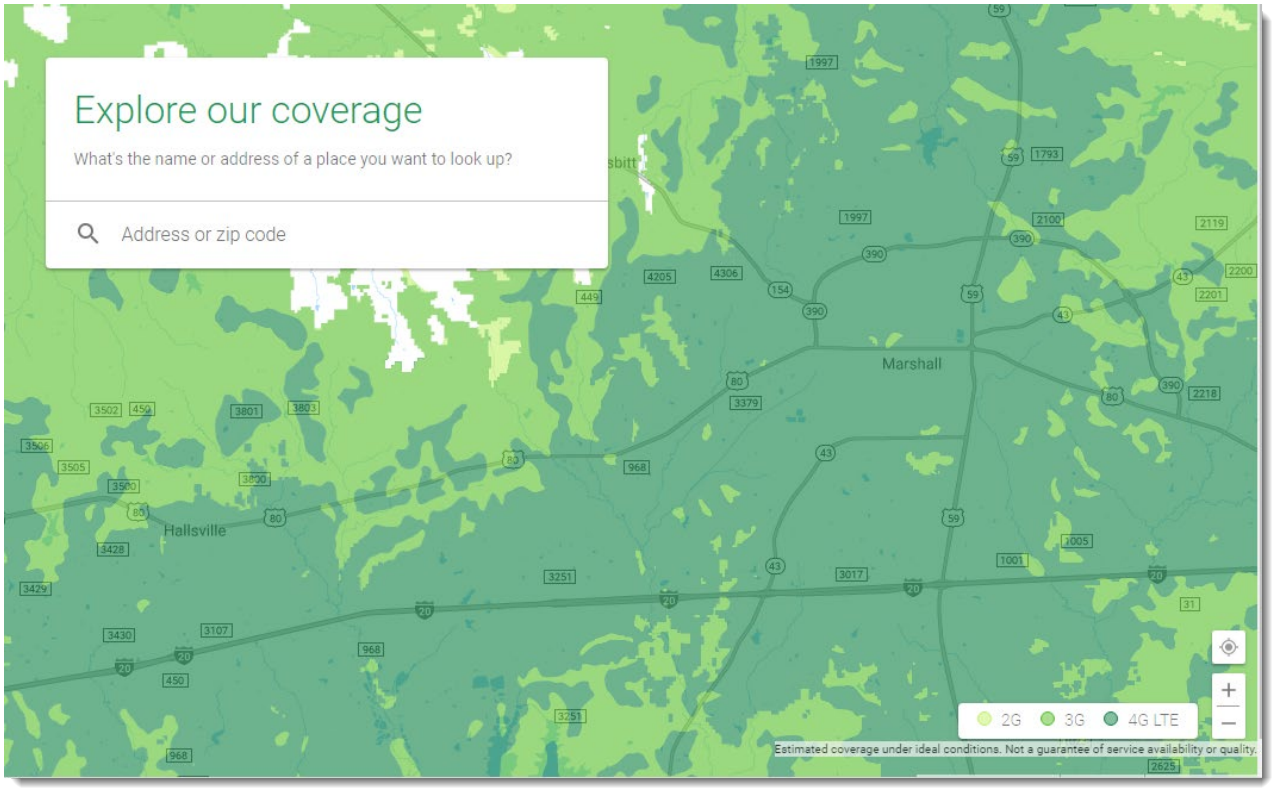
Google's Cell Phone Service (aka Google Fi)

34. Google also provides phone, messaging, and data services in this District from its wireless phone services called Google Fi. Via this Google Fi service, Google provides its customers voice and high-speed data coverage (4G LTE) for cities such as Tyler and Marshall, TX.



Source: https://fi.google.com/coverage?q=Marshall%2C%20TX%2C%20USA

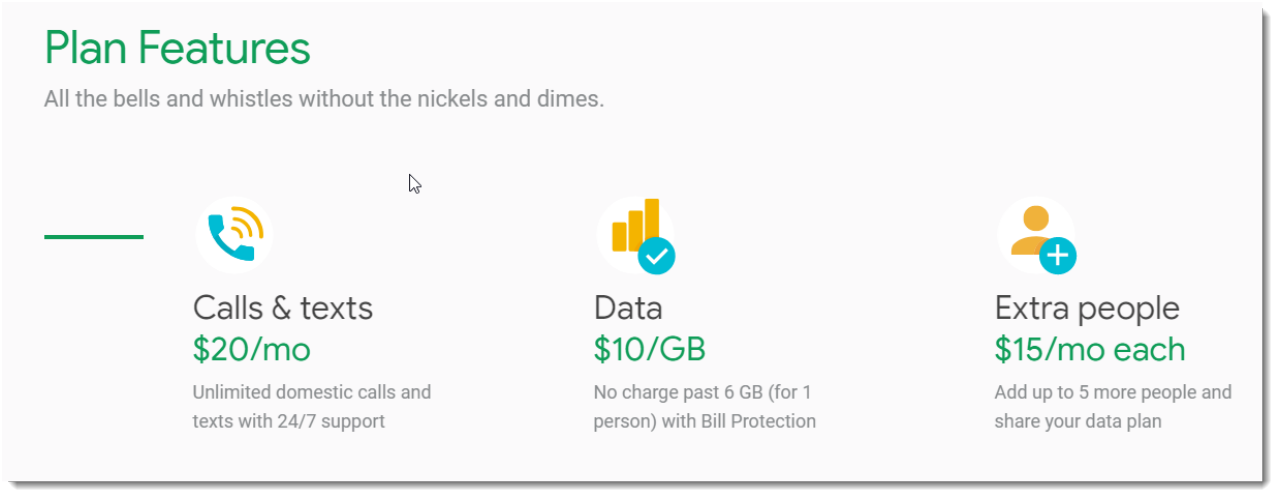
35. The cell towers used for Google's services are fixed geographical locations. They are "regular" and "established" because they operate in a "steady, uniform, orderly, and methodical manner" and are sufficiently permanent. They are "of the defendant" because Google has contractual and/or property rights to use the cell towers to operate its business. Google also ratifies the service locations through its coverage lookup service.



Source: https://fi.google.com/coverage?

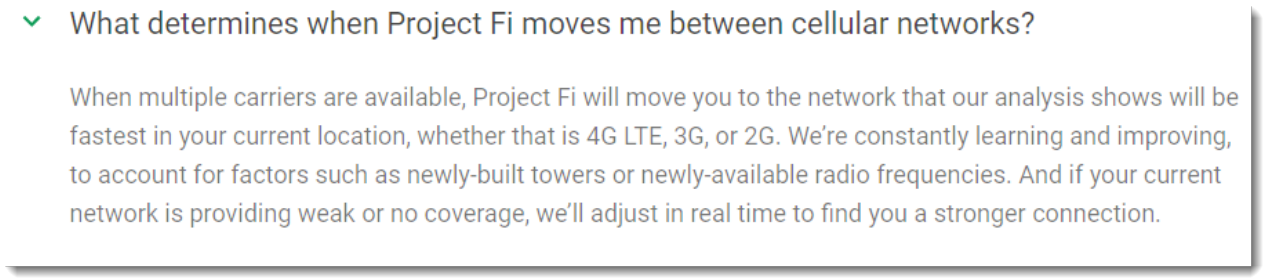
36. With this coverage lookup service, Google advertises its ability to provide cell coverage in this District and it selected cell towers in and near this District to provide the advertised coverage (e.g., 2G, 3G, or 4GLTE) depending on the location in the District. See https://fi.google.com/coverage?. Google is not indifferent to the location of its cell towers. It "established" and "ratified" them where they are for a specific business purpose.

37. Residents of this District also directly contract with and are billed by Google for these services.



Source: https://fi.google.com/about/plan

38. Google also determines which cell tower a particular project Fi customer will use while within the District.

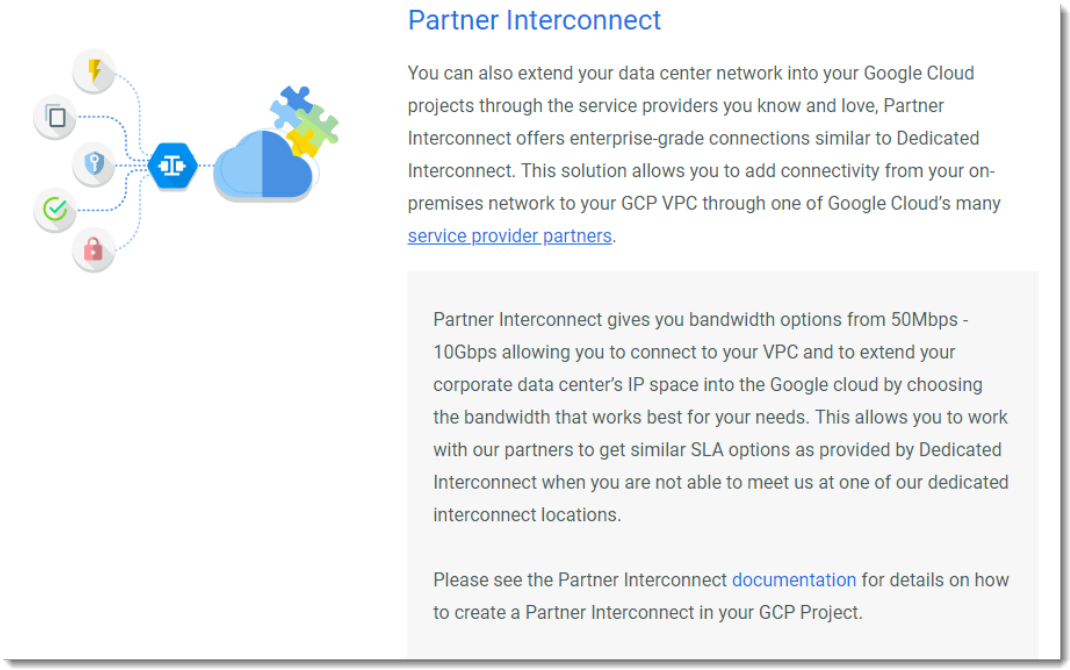


Source: https://fi.google.com/about/faq/#network-and-coverage-4

Google Cloud Interconnect (GCI) and Direct Peering

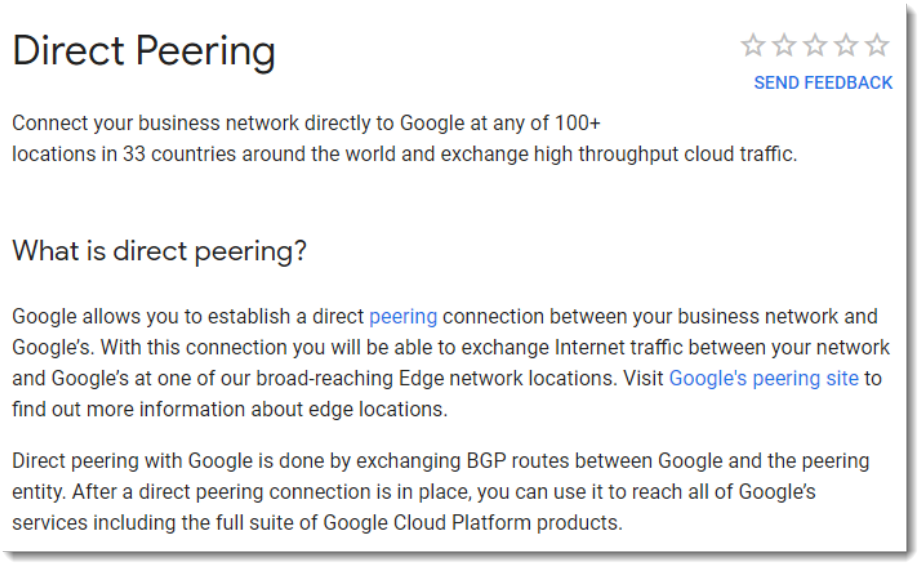
39. Google additionally services its customers in this District (and other districts) through yet other facilities it has in this District. More particularly, Google's equipment is located in this District in Denton County Texas at two facilities referred to as "Megaport." At the Megaport facilities in this District, Google offers two services: Google Cloud Interconnect (GCI) and Direct Peering.

40. Google Cloud's Interconnect (GCI) is a service from Google that allows customers to connect to Google Cloud Platform directly as opposed to, for example, over the public network.



Source: https://cloud.google.com/interconnect/

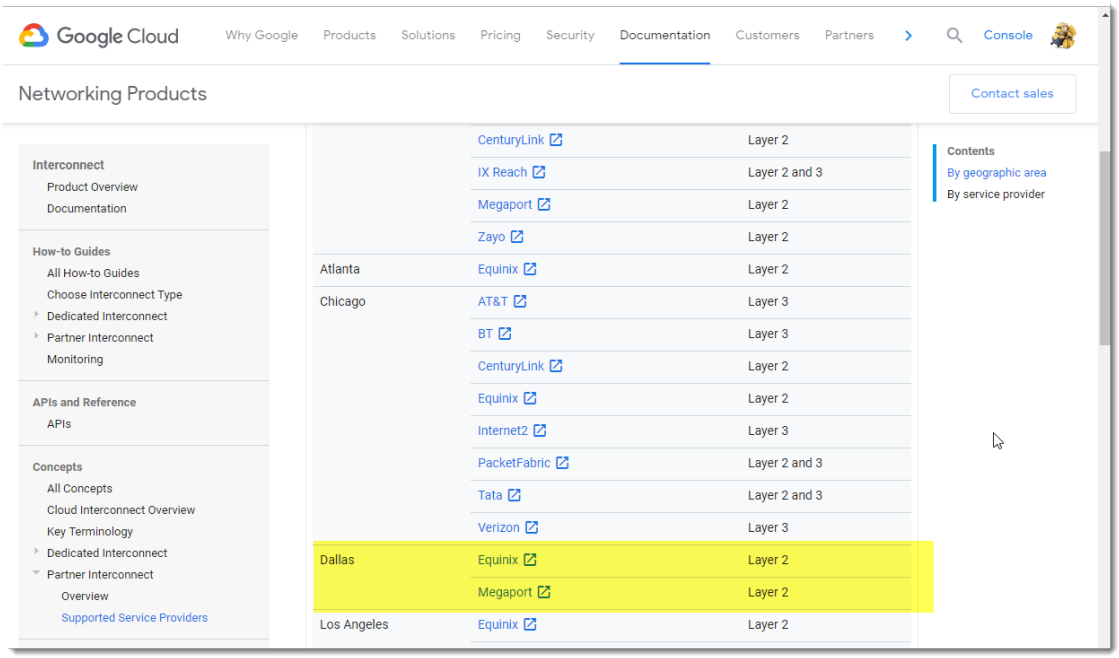
41. Google's Direct Peering services allows its customers to exchange Internet traffic between its customers network and Google's at one of its broad-reaching Edge network locations such as the one at Megaport.



Source: https://cloud.google.com/interconnect/docs/how-to/direct-peering

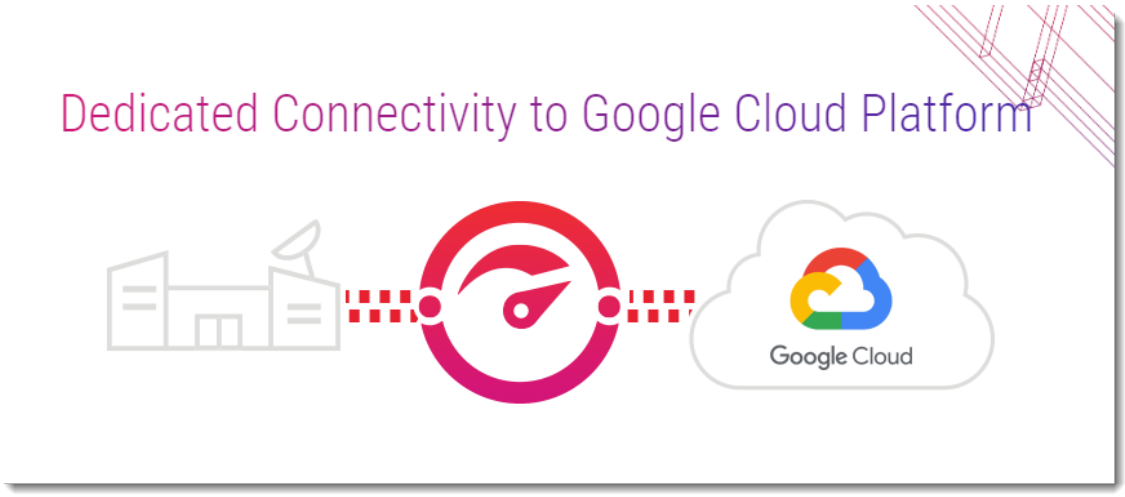
42. In establishing such a direction connection, Google provides the necessary physical

equipment at Megaport to enable such GCI or Direct Peering connections. Google advertises only two GCI facilities in Texas – the Equinix facility and Megaport facility (the latter is located in this District).



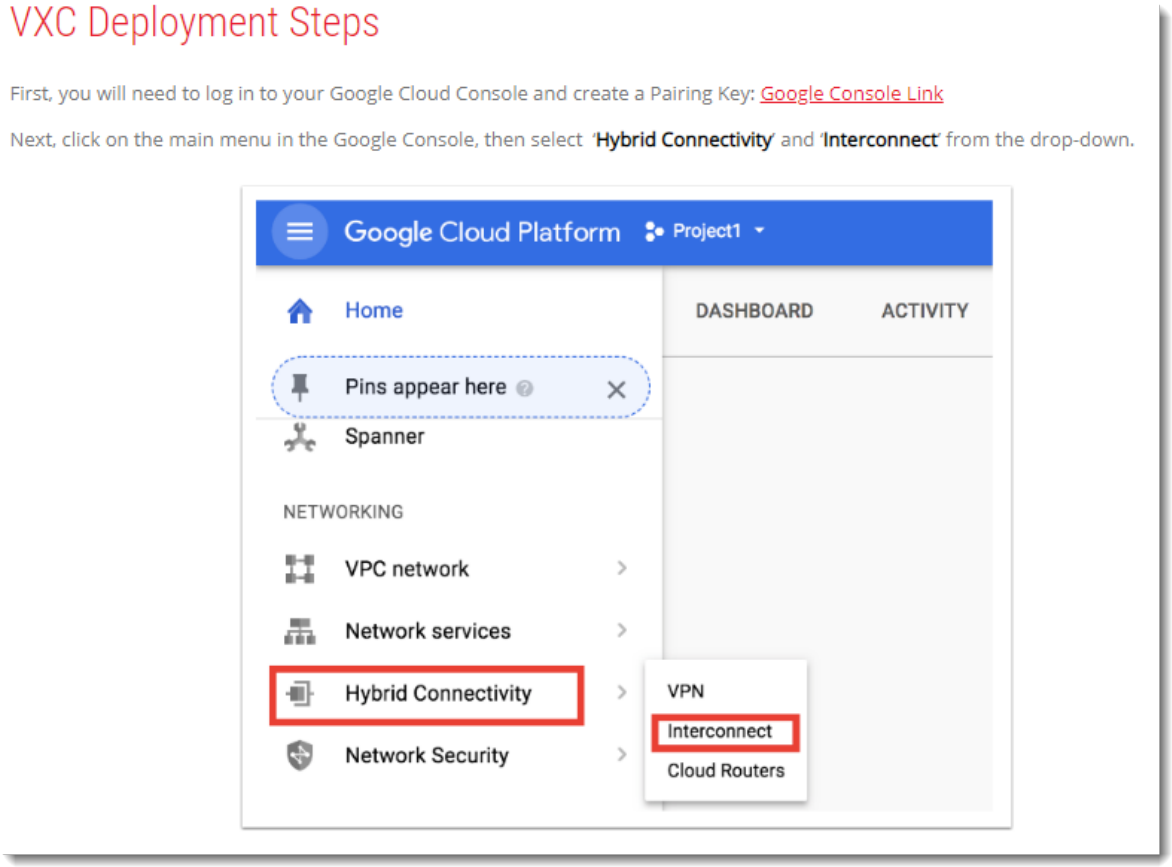
Source: https://cloud.google.com/interconnect/docs/concepts/service-providers#by-location

43. Clicking on the Megaport link from screenshot of Google's website in the preceding paragraph directs a customer as to the details of directly connecting to Google's equipment at the facility in this District to connect to Google's GCI service.



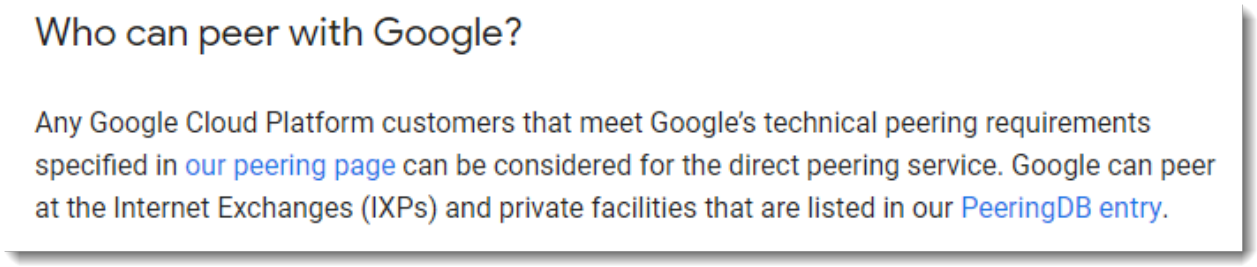
https://www.megaport.com/services/google-cloud-partner-interconnect/

44. More particularly, the Google-linked Megaport site explains how a Google customer can use the Google Cloud Platform console to enable connection to the Google equipment at the Megaport facility in this district.

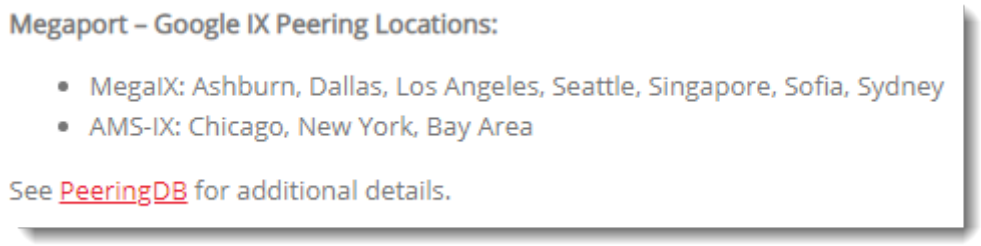


Source: https://knowledgebase.megaport.com/cloud-connectivity/google-cloud/?_ga=2.258056911.476938490.1538320465-1560947970.1538320465

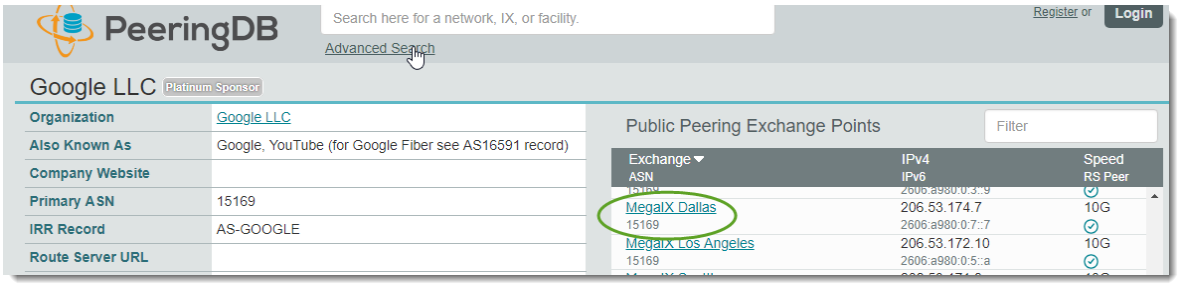
45. Both Google's website and Megaport's website advertise the peering service and point a consumer the website, www.peeringdb.com, for details. The peering DB website lists Megaport Dallas as a Google peering facility.



Source: https://cloud.google.com/interconnect/docs/how-to/direct-peering

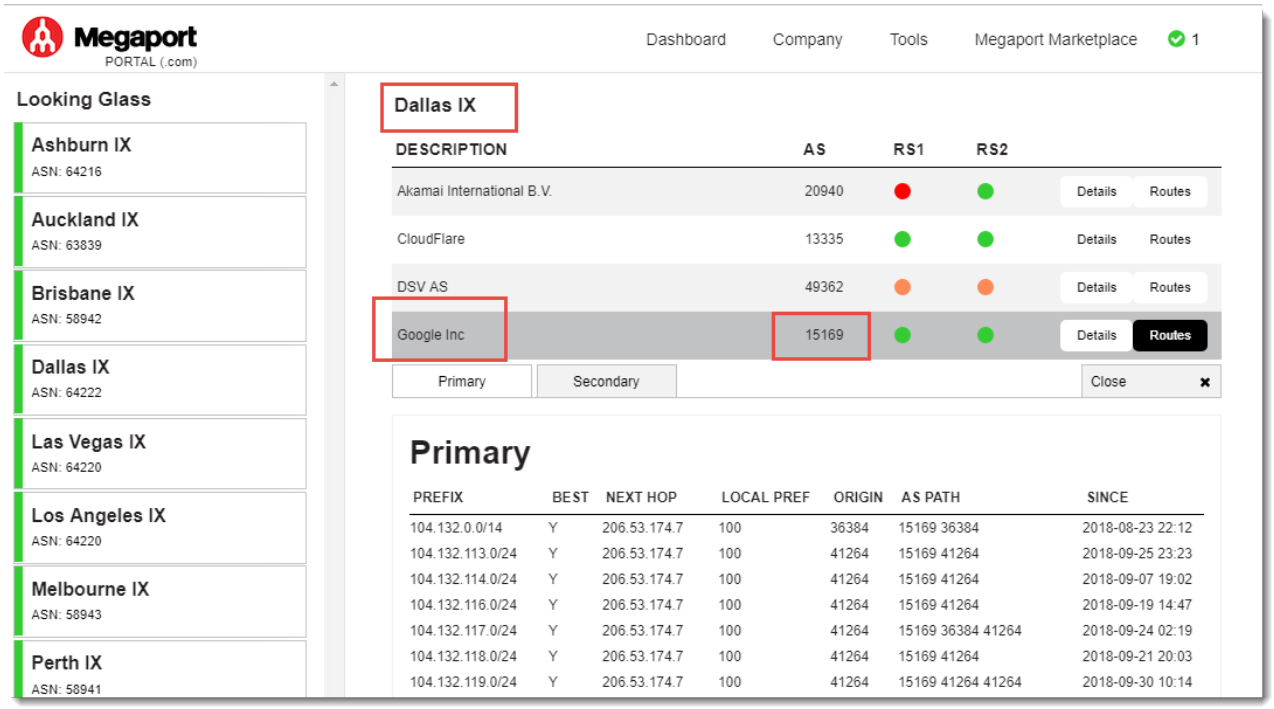


https://knowledgebase.megaport.com/cloud-connectivity/google-cloud-platform-direct-peering/



https://www.peeringdb.com/net/433

46. Megaport's website also confirms in its "Looking Glass" tool the presence of Google at its facility – (AS No. 15169).



Source: https://portal.megaport.com/tools/looking-glass

47. Both of Megaport's "Dallas" locations are in the Eastern District of Texas in Denton County.[12] The larger Megaport facility, the Carrolton facility, is located at 1649 West Frankford Rd and is the largest of its kind in the state of Texas.[13] The smaller Megaport facility, the Lewisville facility, is located at 2501 St. State Hwy 121.

48. The Google equipment at Megaport's facilities which provide the GCI and Direct Peering services for Google customer are fixed geographical locations. They are "regular" and "established" because they operate in a "steady, uniform, orderly, and methodical manner" and are sufficiently permanent. They are "of the defendant" because Google holds contractual and/or property rights to use this space and to maintain this equipment. Google also ratifies the equipment through advertising of the Megaport location as authorized to provide these Google services.

[12] https://www.megaport.com/blog/cyrusone-brings-dallas-closer-cloud/

[13] *Id.*

Other Google Presence in this District

49. In addition to the Google presence described above, Google has other pervasive contacts in this District.

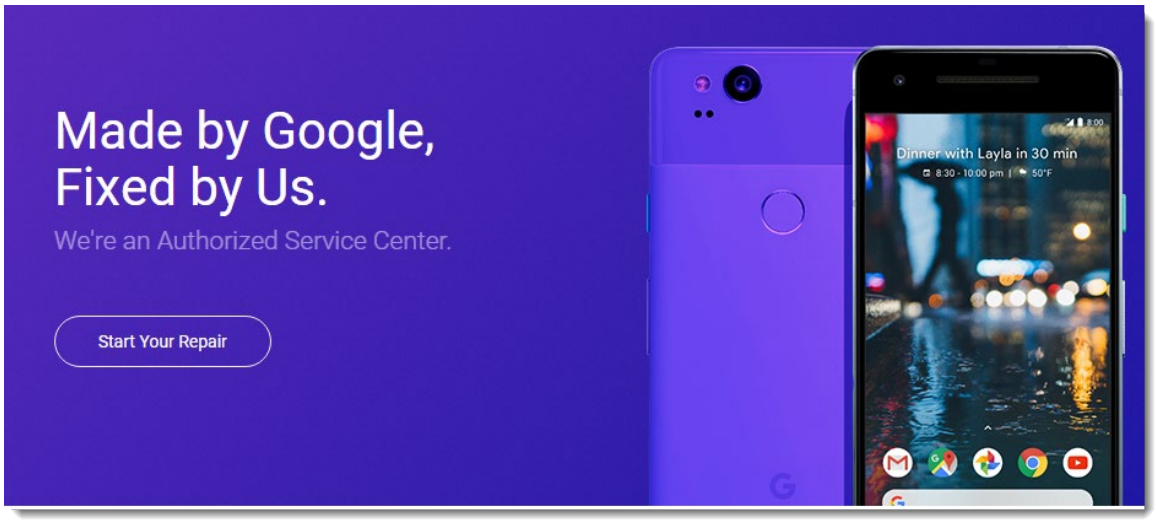
50. Google has multiple authorized repair centers in the Eastern District. A resident can visit Google' website to find a list of these repair centers:

United States	uBreakiFix	Pixel, Pixel XL, Pixel 2, Pixel 2 XL	Walk-in	• uBreakiFix • **Phone**: 1-877-320-2237
	Puls	Pixel, Pixel XL, Pixel 2, Pixel 2 XL	At home (Dial-in)	• Puls • **Phone**: (855) 256-3709
	Google	Pixel, Pixel XL, Pixel 2, Pixel 2 XL	Mail-in	• Google • Repair program currently expanding, option might not be available

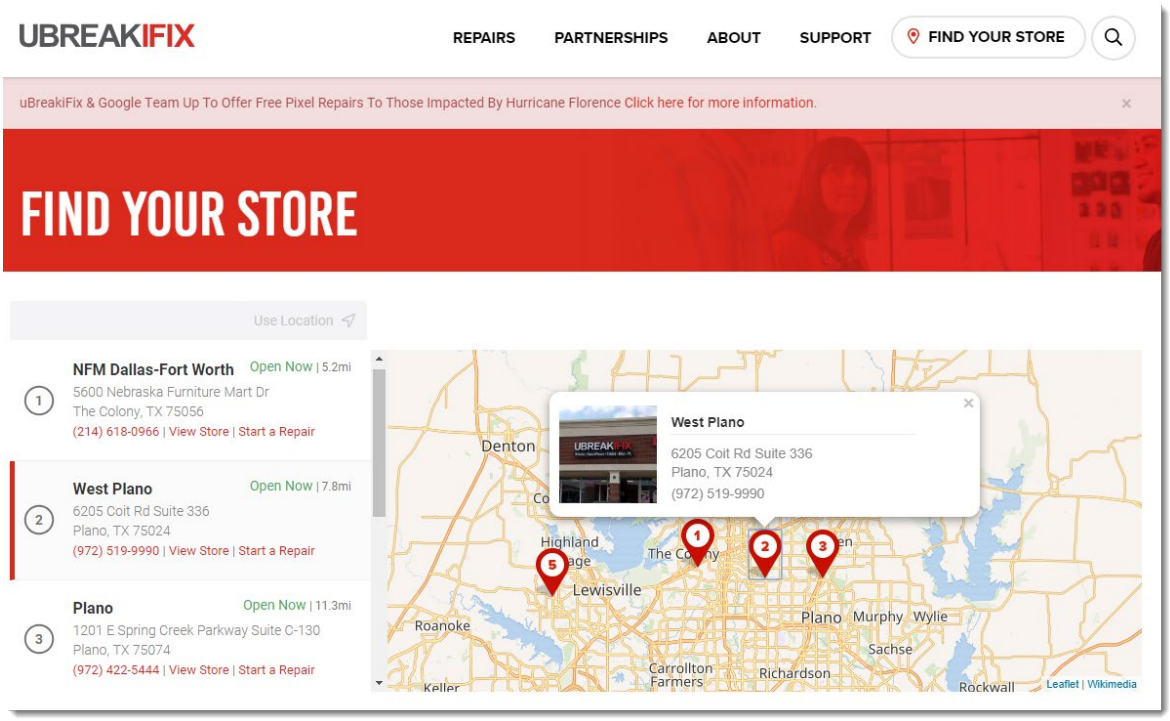
In US and Canada, replacement of parts or product service is made available for a minimum of three years after end of production for all phones through Google or its service providers.

Source: https://support.google.com/store/answer/7182296?hl=en

51. Google's only authorized walk-in repair center, uBreakiFix, lists at least four facilities in this District



Source: https://www.ubreakifix.com/google



Source: https://www.ubreakifix.com/google

52. Google and uBreakiFix teamed up to offer free repairs to those impacted by Hurricane Florence.[14]

53. uBreakiFix has fixed geographical location. They are "regular" and "established" because they operate in a "steady, uniform, orderly, and methodical manner" and are sufficiently permanent. These stores are "of the defendant" because Google has contractual rights with uBreakiFix -- the only authorized walk-in repair centers in the United States. Google also ratifies these facilities through its advertising of them through its website.

54. Google's also has a branded mail-in repair service that is contracted with a company called KMT Wireless, LLC dba Cynergy. Cynergy receives phones at its facility in Grapevine, TX.

[14] *See* https://www.ubreakifix.com/blog/hurricane-florence

United States	uBreakiFix	Pixel, Pixel XL, Pixel 2, Pixel 2 XL	Walk-in	• uBreakiFix • **Phone**: 1-877-320-2237
	Puls	Pixel, Pixel XL, Pixel 2, Pixel 2 XL	At home (Dial-in)	• Puls • **Phone**: (855) 256-3709
	Google	Pixel, Pixel XL, Pixel 2, Pixel 2 XL	Mail-in	• Google • Repair program currently expanding, option might not be available

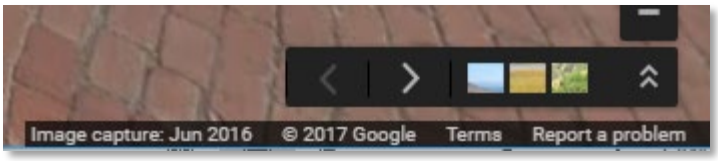
In US and Canada, replacement of parts or product service is made available for a minimum of three years after end of production for all phones through Google or its service providers.

Source: https://support.google.com/store/answer/7182296?hl=en

55. Google has operated and is currently operating its Google Maps Street View business and services in this District. For example, the image below shows the Google Maps Street View of the Eastern District of Texas courthouse in Marshall.

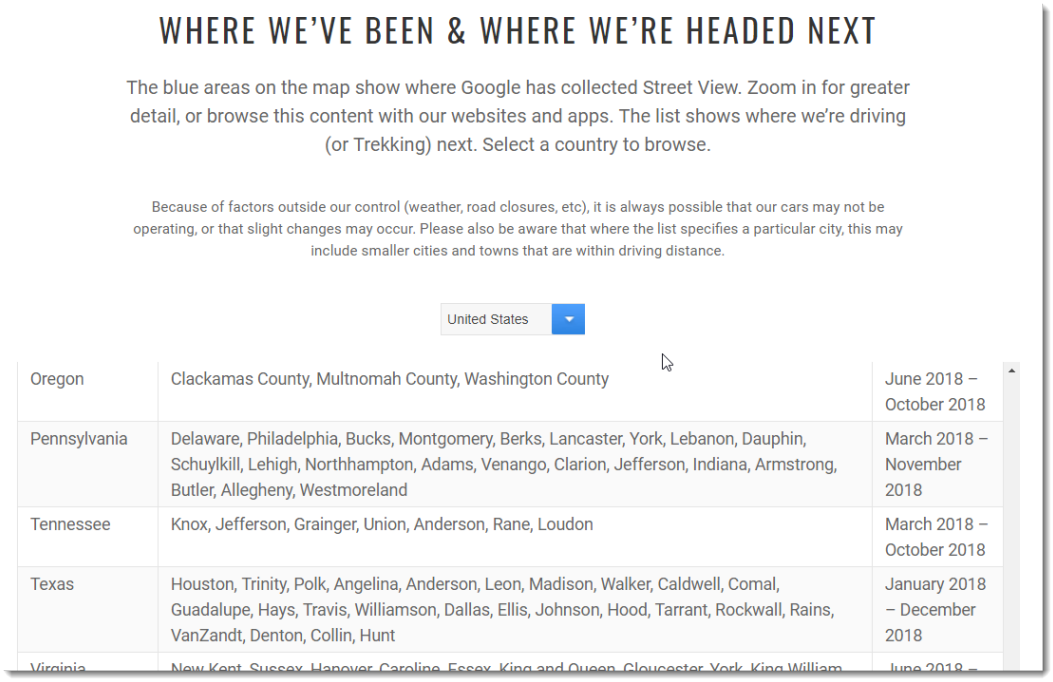
Source:https://www.google.com/maps/@32.5447534,-94.3670371,3a,75y,170.99h,76.06t/data=!3m6!1e1!3m4!1smECZXlUFylR2yu5E-6wj2g!2e0!7i13312!8i6656

Furthermore, in the lower right-hand corner of the Google Street View above, the image is credited to Google and states that it was captured in June 2016.



56. Google also operates a Street View car in and around this District in order to provide the Google Maps Street View service.[15]

57. In addition to the above Google Street View image, Google operates and continues to operate a fleet of Google Street View vehicles in this District, including in the counties of Houston, Trinity, Polk, Angelina, Anderson, VanZandt, Denton, and Collin, as shown below.



WHERE WE'VE BEEN & WHERE WE'RE HEADED NEXT

The blue areas on the map show where Google has collected Street View. Zoom in for greater detail, or browse this content with our websites and apps. The list shows where we're driving (or Trekking) next. Select a country to browse.

Because of factors outside our control (weather, road closures, etc), it is always possible that our cars may not be operating, or that slight changes may occur. Please also be aware that where the list specifies a particular city, this may include smaller cities and towns that are within driving distance.

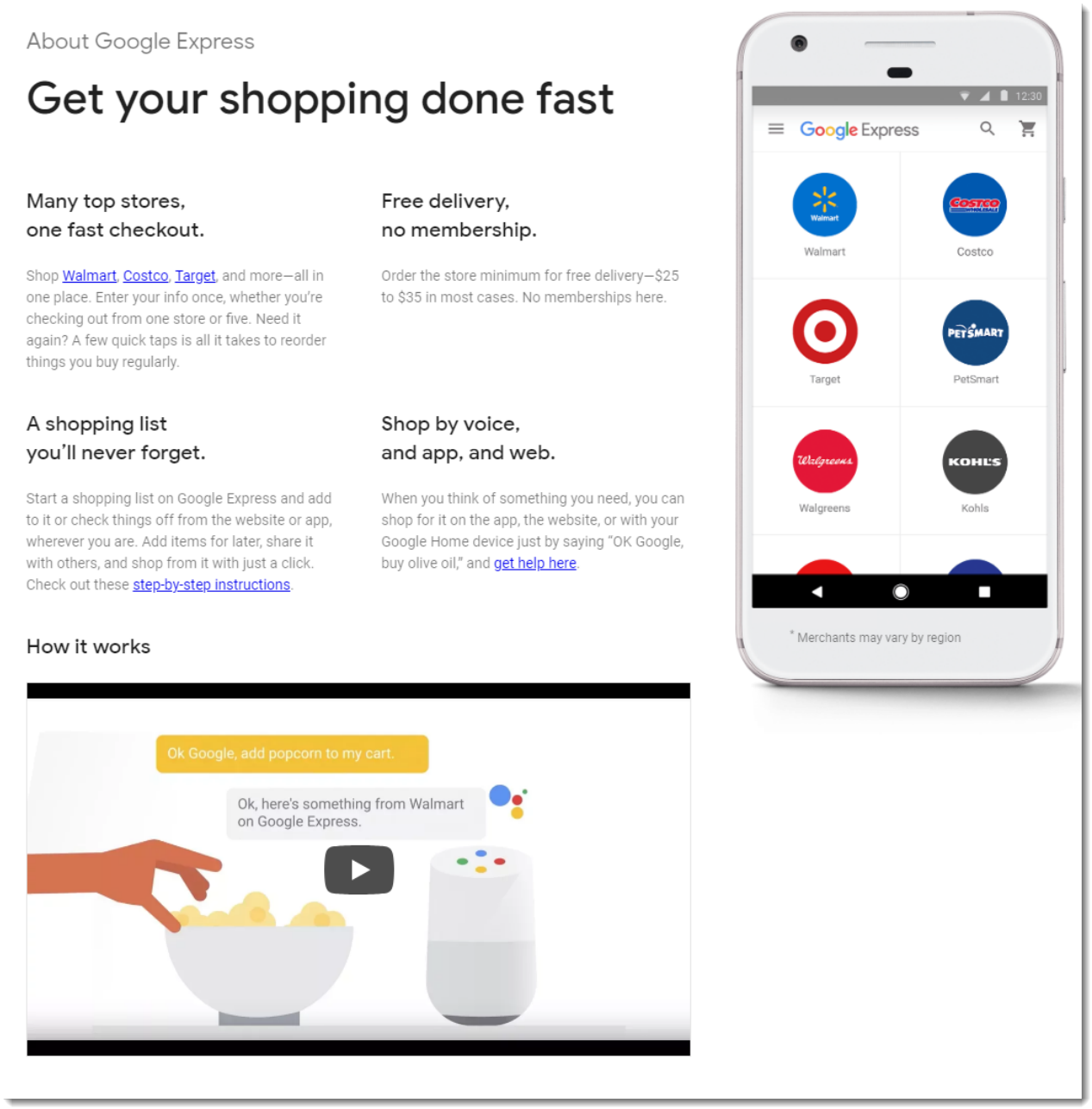
United States

Oregon	Clackamas County, Multnomah County, Washington County	June 2018 – October 2018
Pennsylvania	Delaware, Philadelphia, Bucks, Montgomery, Berks, Lancaster, York, Lebanon, Dauphin, Schuylkill, Lehigh, Northhampton, Adams, Venango, Clarion, Jefferson, Indiana, Armstrong, Butler, Allegheny, Westmoreland	March 2018 – November 2018
Tennessee	Knox, Jefferson, Grainger, Union, Anderson, Rane, Loudon	March 2018 – October 2018
Texas	Houston, Trinity, Polk, Angelina, Anderson, Leon, Madison, Walker, Caldwell, Comal, Guadalupe, Hays, Travis, Williamson, Dallas, Ellis, Johnson, Hood, Tarrant, Rockwall, Rains, VanZandt, Denton, Collin, Hunt	January 2018 – December 2018
Virginia	New Kent, Sussex, Hanover, Caroline, Essex, King and Queen, Gloucester, York, King William	June 2018 –

Source: https://www.google.com/streetview/understand/

[15] See https://www.google.com/streetview/understand/

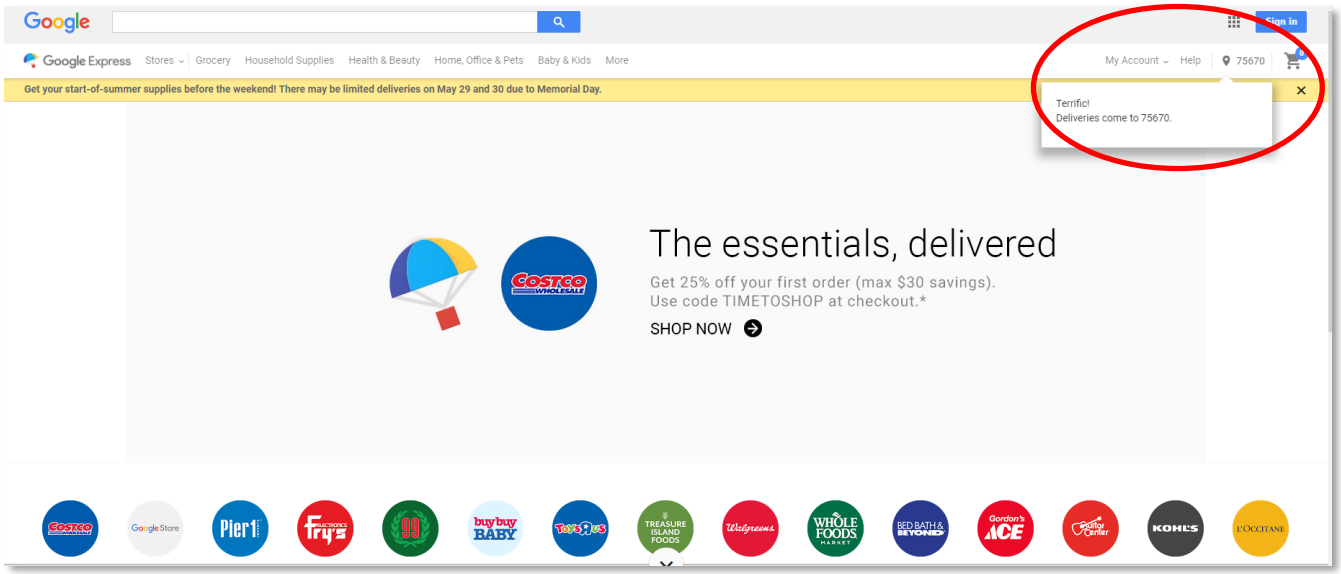
58. Google also has operated and currently operates its Google Express business and services in this District. Google Express allows residents of this District to shop – directly from Google's website – for select products with companies that Google has contracted with.



Source: https://express.google.com/u/0/about

To verify which stores a user may shop, a resident enters his or her zip code and begins shopping at the Google contracted stores. The image below shows the Google Express website showing

that its business and services are available in this District.



Source: https://www.google.com/express/

59. Googles provides its Google Express business and services to the residents of this District by advertising and inviting the residents of this District, then Defendant arranges for a delivery company to bring the goods and products purchased through the Google Express website to the residents of this District.[16] This service uses fixed geographical stores in this District. They are "regular" and "established" because they operate in a "steady, uniform, orderly, and methodical manner" and are sufficiently permanent. They are "of the defendant" because Google ratifies the stores (and select products of the stores) through its website. Only information provided by Google through its service can be purchased although the store may have other items for sale.

60. Google previously leased office space in this District for about 50 people through its Frisco, TX office.

61. Google also provides services to business and schools in this District including email services, word processing software, electronic file storage services, and video conferencing

[16] See https://support.google.com/express/answer/4561693?hl=en

services. Google brands such services as "G Suite" services. Non-limiting examples of such business and schools include the Frisco Independent School District, as shown below.[17]

How do I login?

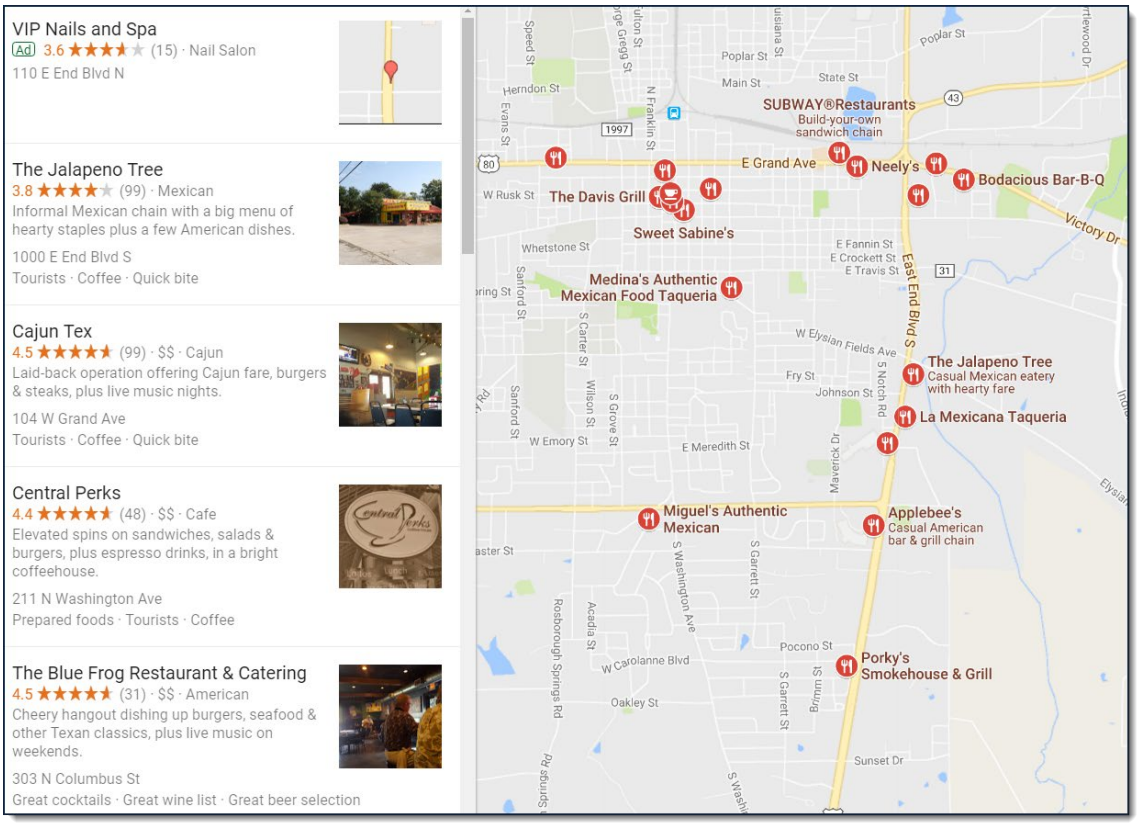
Each student in FISD has a Google login. The username is their Frisco ISD email address, which is firstname.lastname.###@k12.friscoisd.org

where the ### is the last three digits of their student id#. This address uses the full legal first name and full legal last name of the student, and does not recognize nicknames. All teachers have access to student gmail addresses and can help if you aren't sure what the username is.

The password will most likely be the student birth date in 8 digits MMDDYYYY.

Source: http://schools.friscoisd.org/ms/vandeventer/site/resources/accessing-google-applications

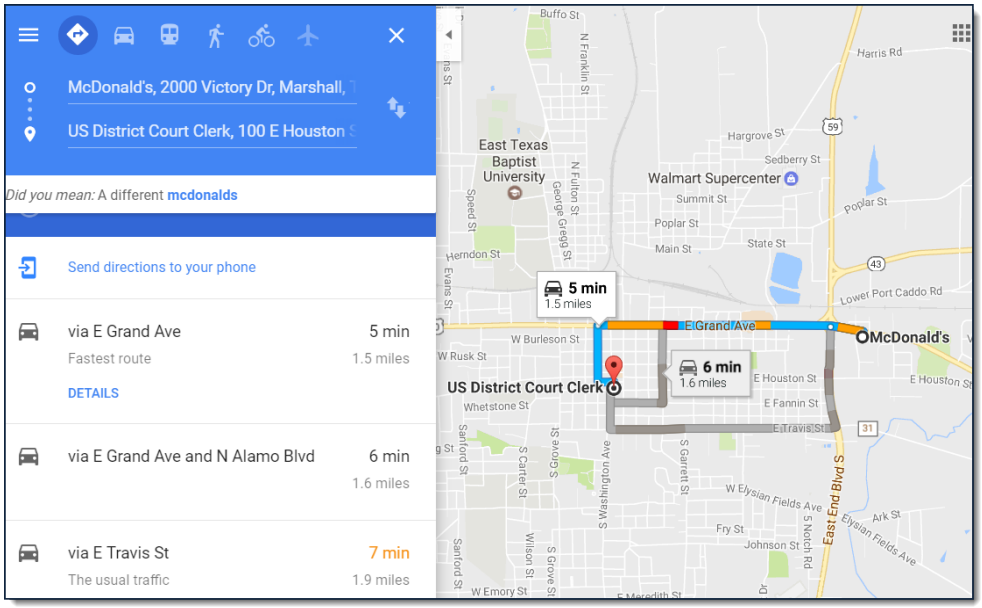
62. Google also provides advertising services to businesses in this District, including soliciting reviews of patrons that have visited a business in the Eastern District of Texas, as shown below.



[17] See http://schools.friscoisd.org/ms/vandeventer/site/resources/accessing-google-applications

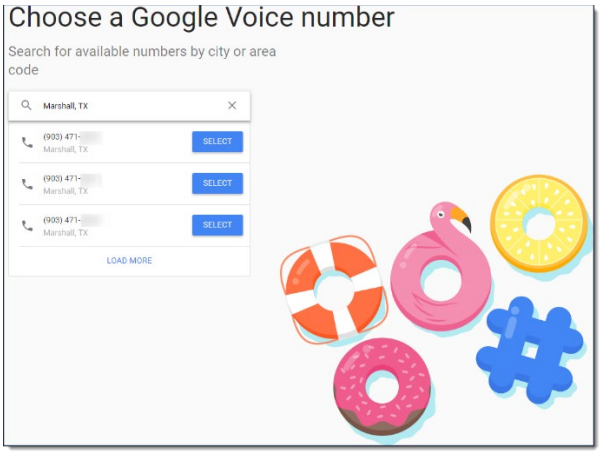
Source: product testing through www.maps.google.com

63. Google also monitors traffic conditions in this District. For example, traffic conditions between a McDonalds and the Federal Courthouse in Marshall, as shown below.



Source: Product testing at www.maps.google.com

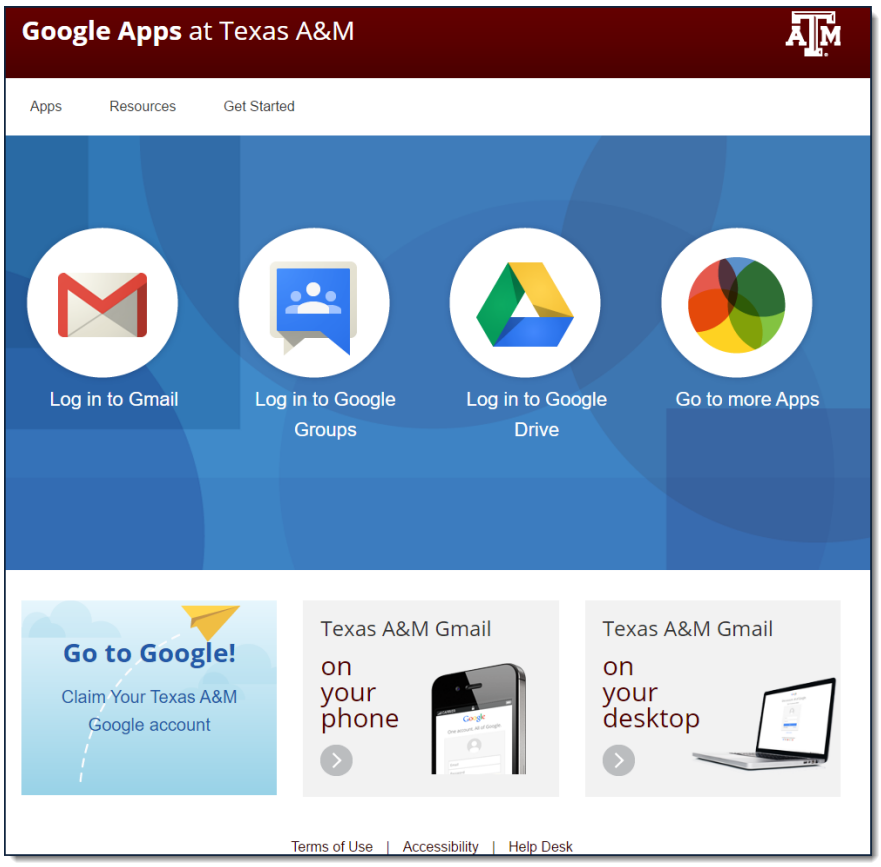
64. Separate and apart from its Google Fi mobile service, Google also provides telephone services to residents in this District through a product it calls Google Voice.[18] A user of Google voice can select local numbers, for example, in Marshall, TX.



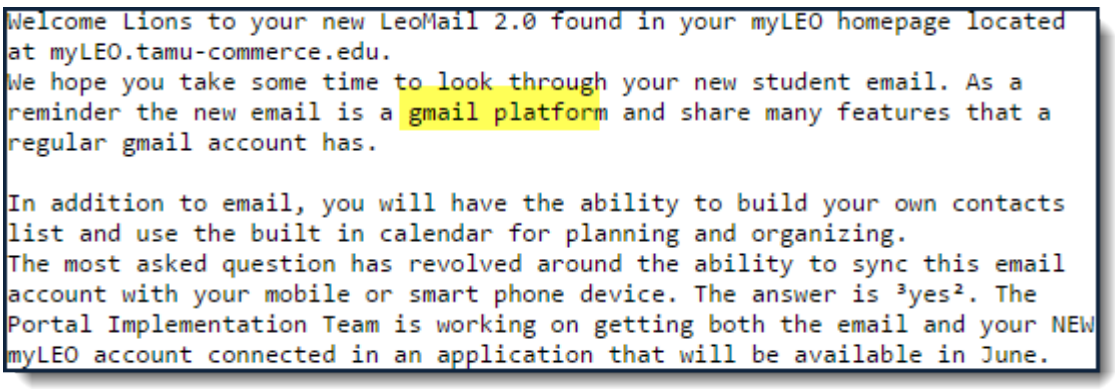
[18] See http://www.wikihow.com/Get-a-Google-Voice-Phone-Number

Source: Product testing at https://voice.google.com/signup

65. Google provides Software-as-a-Service applications, including email and server space, to Texas public universities. Non-limiting examples of such universities are Texas A&M University (which has facilities in this District) and Texas A&M Commerce (located in this District), as shown below.



Source: http://google.tamu.edu/


Welcome Lions to your new LeoMail 2.0 found in your myLEO homepage located at myLEO.tamu-commerce.edu.
We hope you take some time to look through your new student email. As a reminder the new email is a gmail platform and share many features that a regular gmail account has.

In addition to email, you will have the ability to build your own contacts list and use the built in calendar for planning and organizing.
The most asked question has revolved around the ability to sync this email account with your mobile or smart phone device. The answer is ³yes². The Portal Implementation Team is working on getting both the email and your NEW myLEO account connected in an application that will be available in June.

Source: http://mailman.tamuc.edu/pipermail/students/2012-May/004325.html

Other Google Presence in the State

1. Google also has pervasive connection to the state of Texas through multiple commercial activities.

2. Google has purchased land in Midlothian, TX where it plans to build a half-a-billion dollar data center.[19]

3. Since 2007, Google has employed "hundreds" of employees in Texas, including in Austin, Texas.[20]

4. Google has at least one current office located in Austin, on North MoPac Expressway,[21] and additional office locations at University Park and Austin's Children Museum.[22]

5. Google has leased over 200,000 square feet of office space in Austin, Texas, at 500 West 2nd Street.[23]

6. Google has, as of September 2018, job postings for Addison, TX; Dallas, TX; Midlothian, TX; and Austin, TX (38 postings) including positions such as:[24]

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[19] *See* https://www.datacenterknowledge.com/google-alphabet/google-buys-property-build-data-center-near-dallas

[20] According to Gerardo Interiano, Google's public affairs and government relations manager, in a statement. *See* http://www.statesman.com/business/google-lease-200-000-square-feet-new-downtown-austin-tower/SANZSa3du8QQ4k8ytOC2rJ/

[21] *See* https://www.google.com/intl/en/about/locations/?region=north-america

[22] *See* http://www.statesman.com/business/google-lease-200-000-square-feet-new-downtown-austin-tower/SANZSa3du8QQ4k8ytOC2rJ/

[23] *See* http://www.statesman.com/business/google-lease-200-000-square-feet-new-downtown-austin-tower/SANZSa3du8QQ4k8ytOC2rJ/

[24] *See* https://careers.google.com/jobs#t=sq&q=j&li=20&l=false&jl=32.7766642%3A-96.79698789999998%3ADallas%2C+TX%2C+USA%3AUS%3A%3A25.77719109274963%3ALOCALITY&jld=20&&jcoid=7c8c6665-81cf-4e11-8fc9-ec1d6a69120c&jcoid=e43afd0d-d215-45db-a154-5386c9036525& and https://careers.google.com/jobs#t=sq&q=j&li=20&l=false&jlo=en-US&jcoid=7c8c6665-81cf-4e11-8fc9-ec1d6a69120c&jcoid=e43afd0d-d215-45db-a154-5386c9036525&jl=30.267153%3A-97.74306079999997%3AAustin%2C+TX%2C+USA%3AUS%3A%3A20.13709231046343%3ALOCALITY%3A%3A%3A%3A%3A%3A%3A%3A%3A%3A%3A%3A%3A%3A&jld=20&

- Network Transport Engineer (Midlothian)
- Project Controls Group Lead, Google Data Centers (Dallas)
- Network Engineer, Tools (Addison)
- Cluster Security Manager (Austin)

7. Upon information and belief, Defendant has at least eleven (11) entities registered in Texas, including:

- GOOGLE LLC
- GOOGLE ACQUISITION HOLDINC, INC.
- GOOGLE COMPARE AUTO INSURANCE SERVICES INC.
- GOOGLE COMPARE CREDIT CARDS INC.
- GOOGLE COMPARE MORTGAGES INC.
- GOOGLE FIBER INC.
- GOOGLE FIBER NORTH AMERICA INC.
- GOOGLE FIBER TEXAS, LLC
- GOOGLE INC.
- GOOGLE NORTH AMERICA INC.
- GOOGLE PAYMENT CORP.

8. Google has provided, currently provides, and is currently offering to provide its Google Fiber services to the residents of Austin, Texas and San Antonio, Texas.[25]

9. Google has invested $200,000,000 in the Spinning Spur wind farm project in Oldham County, Texas.[26]

[25] See https://fiber.google.com/cities/austin/ and https://fiber.google.com/cities/sanantonio/
[26] See https://www.chooseenergy.com/blog/energy-news/google-invests-200m-in-west-texas-wind-farm/

10. Google has massively scanned books from Texas public universities.

Source: https://www.lib.utexas.edu/google/faqs.html

11. Google provides the State of Texas with aerial imagery.[27]

12. Google acquired Waze in 2013,[28] and Google's Waze traffic app partners with cities and business in Texas, non-limiting examples include the Waze partnership with the city of Forth Worth to provide constant traffic data to the city.[29] Another non-limiting example includes the Waze partnership with the Genesis Group in Tyler, to decrease emergency response times.[30]

COUNT I
(INFRINGEMENT OF U.S. PATENT NO. 6,366,908)

13. Uniloc incorporates the preceding paragraphs above by reference.

14. U.S. Patent No. 6,366,908 ("the '908 Patent"), entitled KEYFACT-BASED TEXT RETRIEVAL SYSTEM, KEYFACT-BASED TEXT INDEX METHOD, AND RETRIEVAL METHOD issued on April 2, 2002. The '908 Patent lists Kyung Taek Chong, Myung-Gil Jang, MiSeon Jun, Se Young Park as inventors. A true and correct copy of the '908 Patent is attached as Exhibit A hereto.

15. Pursuant to 35 U.S.C. § 282, the '908 Patent is presumed valid. More than 100

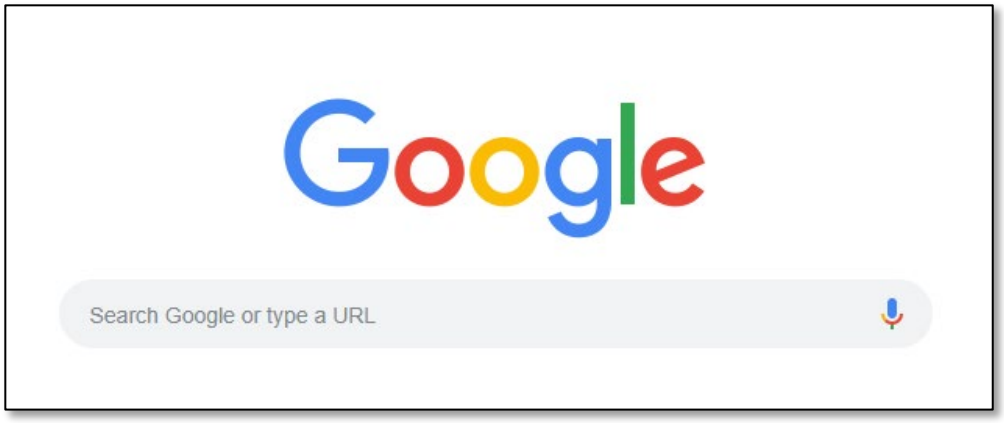
[27] See http://www.bisconsultants.com/affordable-imagery-for-texas-government-entities-from-google/
[28] See https://techcrunch.com/2013/06/11/its-official-google-buys-waze-giving-a-social-data-boost-to-its-location-and-mapping-business/
[29] See http://dfw.cbslocal.com/2016/12/14/forth-worth-partners-with-waze-traffic-app/
[30] See https://genesispulse.com/2015/10/06/the-genesis-group-joins-waze-connected-citizens-program/

references have cited the ’908 Patent, including references from Microsoft, Fujitsu, Chase Bank, and Xerox.

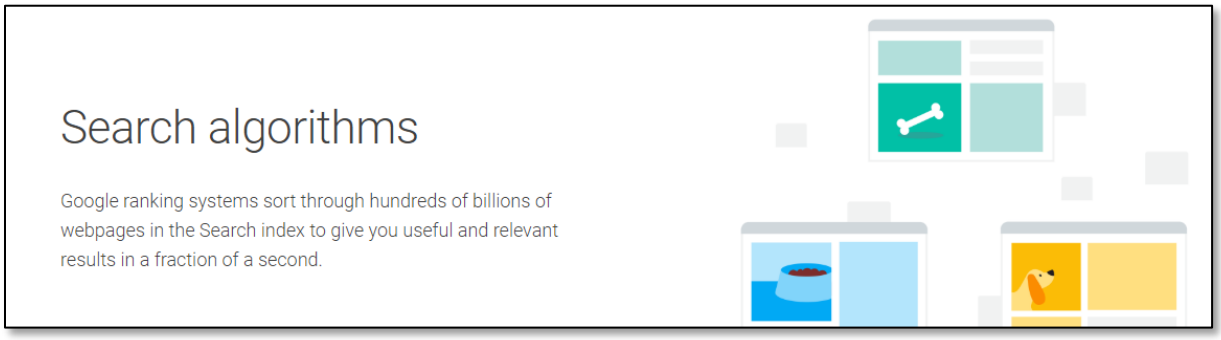
16. The ’908 Patent describes inventive features that are not well-understood, routine, and conventional.

17. Google makes, uses, offers for sale, sells and/or imports into the United States a search engine the trade name “Google Search.” Google Search is a web-based document indexing and search system which is used to list the documents best matching a user query by referring to an index. Google Search uses natural language understanding and custom language models to interpret user queries based on the facts present in them. Google also owns a number of patents for phrase-based indexing where phrases are identified based on morphology and grammatical markers. Taking user query as input Google search retrieves the best matching documents by using algorithms which involve natural language understanding, index search and document ranking. Collectively, such a system is referred to as the “Accused Infringing Devices.”

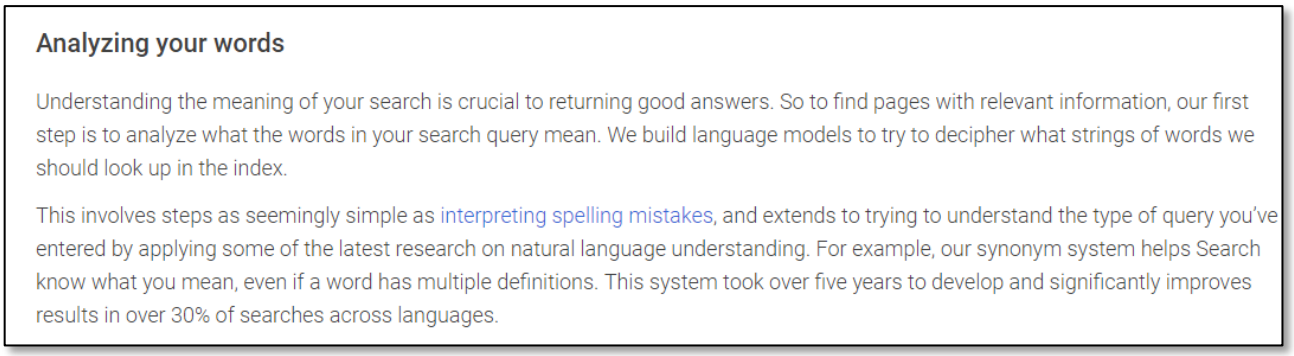
18. Google search engine analyses words in user search query to find their meaning. Google builds language models to decipher strings of words(or keyfacts) that Google should look up in Google index. Google uses natural language understanding to find the meaning of query and decipher strings of words which represent their true meaning. Each such deciphered string derived using language model and natural language understanding acts as a keyfact.



Source: www.google.com



Source: https://www.google.com/search/howsearchworks

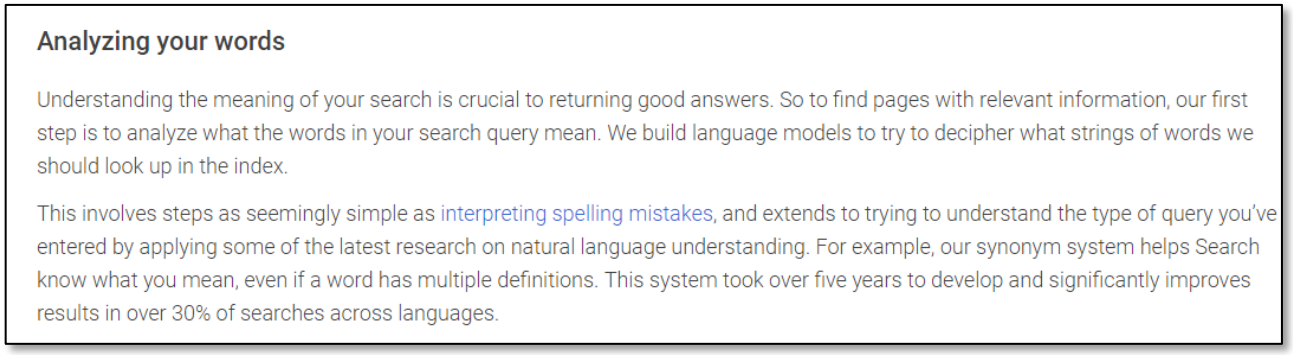


Source: https://www.google.com/search/howsearchworks/algorithms

19. Google search supports a keyfact extracting step for analyzing a document collection and a user query, and extracting keywords without part-of-speech ambiguity from said document collection and said user query, and respectively extracting keyfacts of said document collection and said user query from said keywords.

20. Google search engine uses natural language understanding to decipher the string of words(or keyfacts) that should be looked up in index. Google search system uses artificial intelligence to find the correct meaning(unambiguous) if a word has multiple definitions.

21. The Google Cloud Natural Language Processing (NLP) API uses the same language understanding technology as used in Google search engine. Google NLP API supports text analysis which involves part-of-speech tagging and noun phrase extraction.

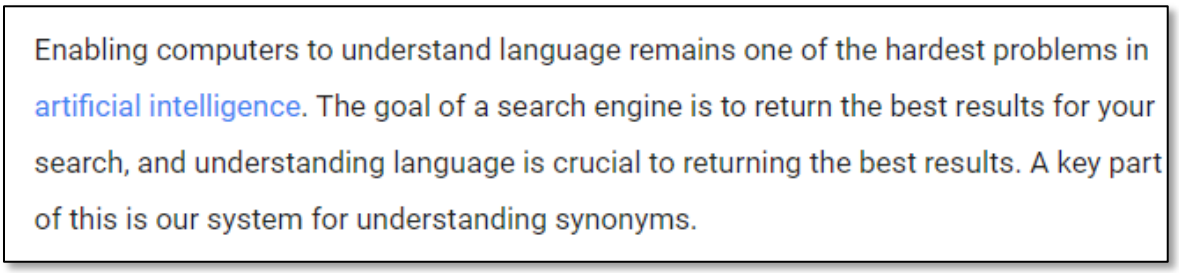


Analyzing your words

Understanding the meaning of your search is crucial to returning good answers. So to find pages with relevant information, our first step is to analyze what the words in your search query mean. We build language models to try to decipher what strings of words we should look up in the index.

This involves steps as seemingly simple as interpreting spelling mistakes, and extends to trying to understand the type of query you've entered by applying some of the latest research on natural language understanding. For example, our synonym system helps Search know what you mean, even if a word has multiple definitions. This system took over five years to develop and significantly improves results in over 30% of searches across languages.

Source: https://www.google.com/search/howsearchworks/algorithms



Enabling computers to understand language remains one of the hardest problems in artificial intelligence. The goal of a search engine is to return the best results for your search, and understanding language is crucial to returning the best results. A key part of this is our system for understanding synonyms.

Source: https://googleblog.blogspot.com/2010/01/helping-computers-understand-language.html

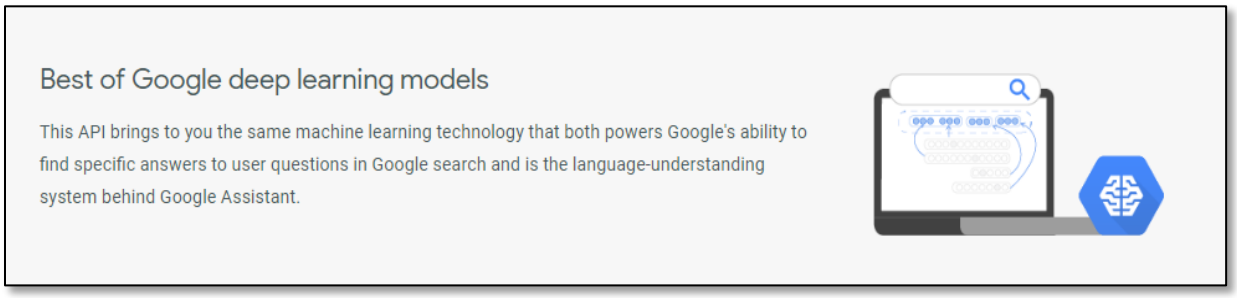
Semi-supervised Word Sense Disambiguation with Neural Models

Dayu Yuan **Julian Richardson** **Ryan Doherty** **Colin Evans** **Eric Altendorf**
Google, Mountain View CA, USA
{dayuyuan,jdcr,portalfire,colinhevans,ealtendorf}@google.com

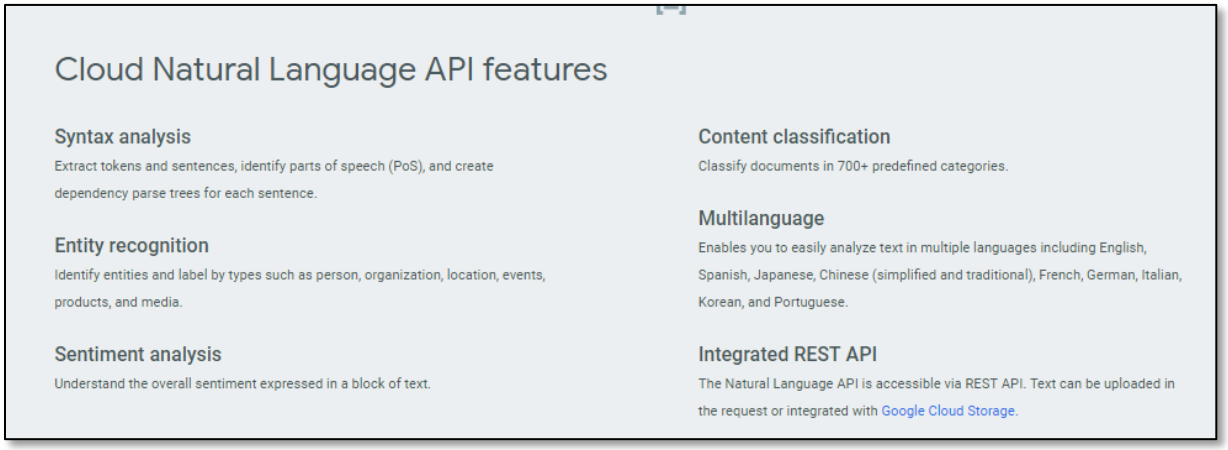
Abstract

Determining the intended sense of words in text – word sense disambiguation (WSD) – is a long-standing problem in natural language processing. Recently, researchers have shown promising results using word vectors extracted from a neural network language model as features in WSD algorithms. However, a simple average or concatenation of word vectors for each word in a text loses the sequential and syntactic information of the text. In this paper, we study WSD with a sequence learning neural net, LSTM, to better capture the sequential and syntactic patterns of the text. To alleviate the lack of training data in all-words WSD, we employ the same LSTM in a semi-supervised label propagation classifier. We demonstrate state-of-the-art results, especially on verbs.

Source: https://arxiv.org/pdf/1603.07012.pdf



Source: https://cloud.google.com/natural-language/

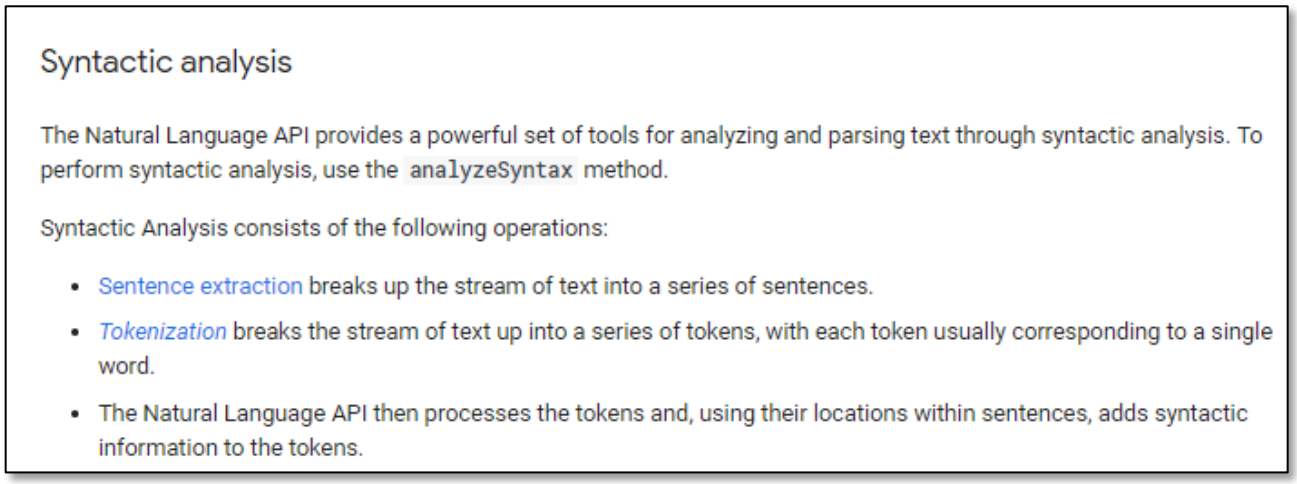


Source: https://cloud.google.com/natural-language/

22. Text analysis in the Google Cloud Natural Language involves detection of POS-tags and morphological analysis. Google Cloud Natural Language API supports tools for analyzing and parsing text through syntactic analysis. Syntactic analysis assigns tags to the noun phrases in a sentence based on part of speech analysis. These tags can be used to extract phrases showing specific syntactic relations derived from dependency tree.

> **Text analysis** seems to be quite effectual in the Google Cloud Natural Language. It can find the relations in the sentences, detect POS-tags, lemmas of the words. It also provides morphological analysis (number, proper tense, gender, person, a case of the word, etc.). The relations between the words may be represented in the form of the dependency trees.

Source: https://medium.com/activewizards-machine-learning-company/comparison-of-the-most-useful-text-processing-apis-e4b4c1e6626a



Syntactic analysis

The Natural Language API provides a powerful set of tools for analyzing and parsing text through syntactic analysis. To perform syntactic analysis, use the `analyzeSyntax` method.

Syntactic Analysis consists of the following operations:

- Sentence extraction breaks up the stream of text into a series of sentences.
- *Tokenization* breaks the stream of text up into a series of tokens, with each token usually corresponding to a single word.
- The Natural Language API then processes the tokens and, using their locations within sentences, adds syntactic information to the tokens.

Source: https://cloud.google.com/natural-language/docs/basics

Tokenization

The `analyzeSyntax` method also transforms text into a series of tokens, which correspond to the different textual elements (word boundaries) of the passed content. The process by which the Natural Language API develops this set of tokens is known as *tokenization*.

Once these tokens are extracted, the Natural Language API processes them to determine their associated part of speech (including morphological information) and lemma. Additionally, tokens are evaluated and placed within a *dependency tree*, which allows you to determine the syntactic meaning of the tokens, and illustrate the relationship of tokens to each other, and their containing sentences. The syntactic and morphological information associated with these tokens are useful for understanding the syntactic structure of sentences within the Natural Language API.

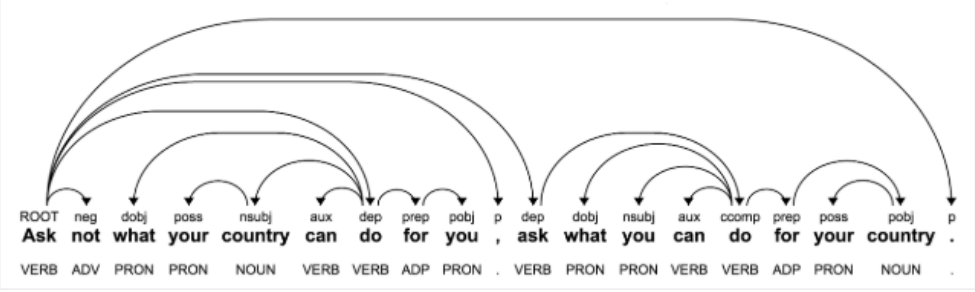
Source: https://cloud.google.com/natural-language/docs/basics

Dependency trees

Within a syntactic request, part-of-speech and morphological information are returned within the response's `partOfSpeech` field.

For each sentence within the text provided to the Natural Language API for syntactic analysis, the API constructs a *dependency tree* that describes the syntactic structure of that sentence. The syntactic information are returned within the response's `dependencyEdge` field.

A diagram of the dependency tree for this single sentence from John F. Kennedy's Inaugural speech appears below:



Source: https://cloud.google.com/natural-language/docs/morphology

NPADVMOD	A noun phrase used as an adverbial modifier.
	`The director is 65 years old.`
	`NPADVMOD Head`
	`Six feet long`
	`NPADVMOD Head`
	`Shares eased a fraction.`
	`HEAD NPADVMOD`
	`The silence is itself significant.`
	`NPADVMOD Head`
	`90% of Australians like him, the most of any country.`
	`Head NPADVMOD`

NSUBJ	A noun phrase that is the syntactic subject of a clause.
	`Clinton defeated Dole.`
	`NSUBJ Head`
	`The baby is cute`
	`NSUBJ Head`

NSUBJPASS	A noun phrase that is the syntactic subject of a passive clause.
	`Dole was defeated by Clinton.`
	`NSUBJPASS Head`

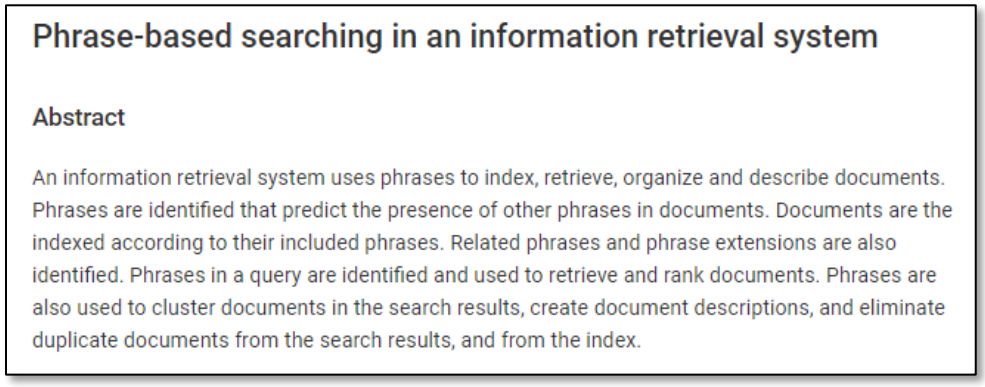
Source: https://cloud.google.com/natural-language/docs/morphology

23. Google supports a keyfact indexing step for calculating the frequency of said keyfacts of said document collection and generating a keyfact list of said document collection for a keyfact index structure.

24. Google search engine indexes pages on the web using phrase-based indexing. Phrase selection is based on morphological and grammatical markers. Further, Google builds language models to decipher strings of words(or keyfacts) that Google should look up in search index.

25. Google also supports “search phrases” which are a set of terms that describe a particular business and are used to determine when an ad should appear for a potential customer. Further, Google is able to do phrase matching even when the text is not enclosed in quotes. Google owns a number of patents on phrase-based indexing.

26. Google uses natural language understanding for phrase extraction and index search. The Google index is built up using phrases which are extracted using natural language understanding and dependency tree. Each phrase that matches a specific syntactic relationship in dependency tree acts as a keyfact. Also, noun phrases are important in creating an index and for searching documents.

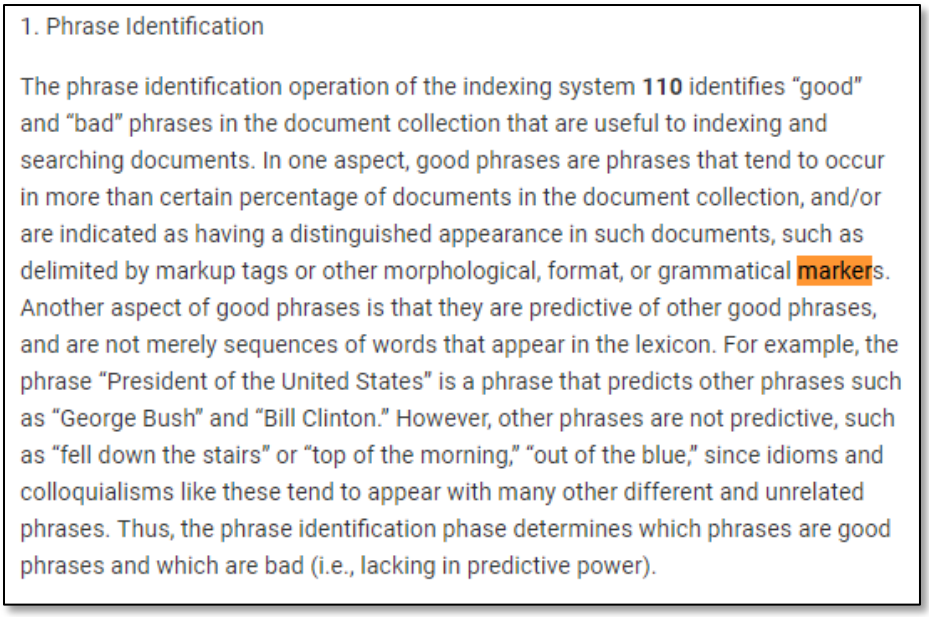


Phrase-based searching in an information retrieval system

Abstract

An information retrieval system uses phrases to index, retrieve, organize and describe documents. Phrases are identified that predict the presence of other phrases in documents. Documents are the indexed according to their included phrases. Related phrases and phrase extensions are also identified. Phrases in a query are identified and used to retrieve and rank documents. Phrases are also used to cluster documents in the search results, create document descriptions, and eliminate duplicate documents from the search results, and from the index.

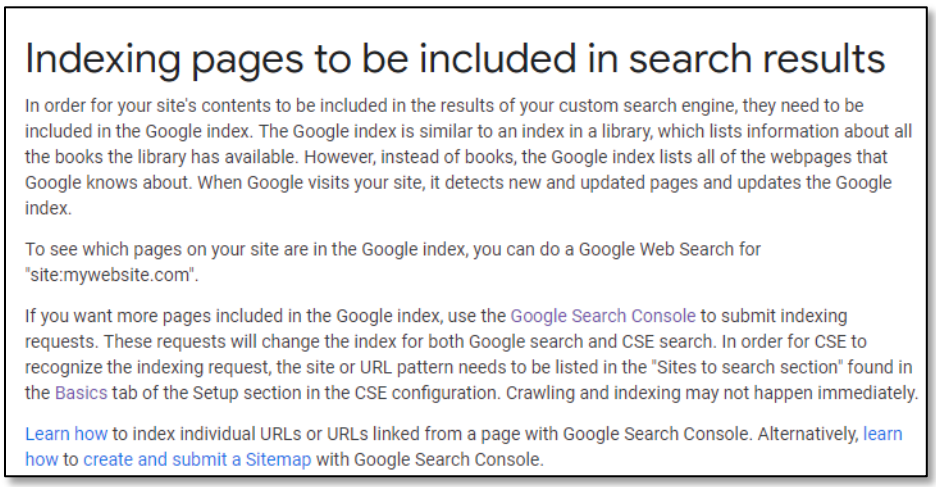
Source: Google Patent at https://patents.google.com/patent/US9990421B2/en?oq=9%2c990%2c421



1. Phrase Identification

The phrase identification operation of the indexing system **110** identifies "good" and "bad" phrases in the document collection that are useful to indexing and searching documents. In one aspect, good phrases are phrases that tend to occur in more than certain percentage of documents in the document collection, and/or are indicated as having a distinguished appearance in such documents, such as delimited by markup tags or other morphological, format, or grammatical markers. Another aspect of good phrases is that they are predictive of other good phrases, and are not merely sequences of words that appear in the lexicon. For example, the phrase "President of the United States" is a phrase that predicts other phrases such as "George Bush" and "Bill Clinton." However, other phrases are not predictive, such as "fell down the stairs" or "top of the morning," "out of the blue," since idioms and colloquialisms like these tend to appear with many other different and unrelated phrases. Thus, the phrase identification phase determines which phrases are good phrases and which are bad (i.e., lacking in predictive power).

Source: https://patents.google.com/patent/US9990421B2/en?oq=9%2c990%2c421



Indexing pages to be included in search results

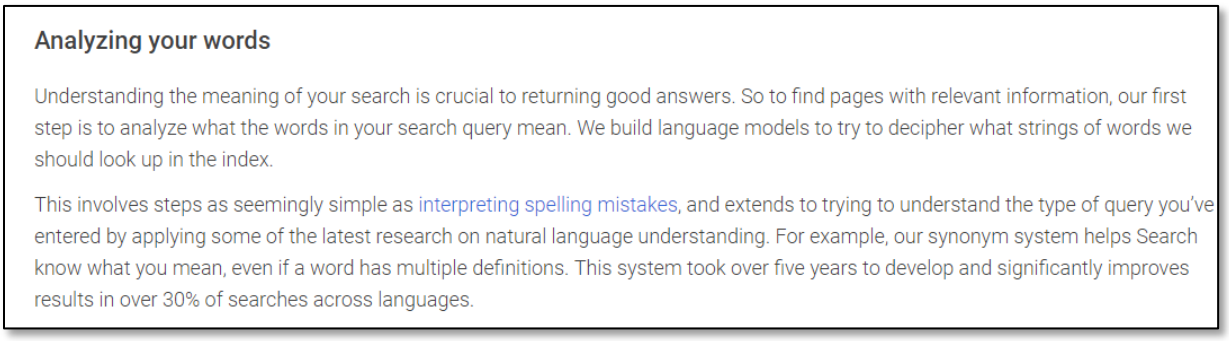
In order for your site's contents to be included in the results of your custom search engine, they need to be included in the Google index. The Google index is similar to an index in a library, which lists information about all the books the library has available. However, instead of books, the Google index lists all of the webpages that Google knows about. When Google visits your site, it detects new and updated pages and updates the Google index.

To see which pages on your site are in the Google index, you can do a Google Web Search for "site:mywebsite.com".

If you want more pages included in the Google index, use the Google Search Console to submit indexing requests. These requests will change the index for both Google search and CSE search. In order for CSE to recognize the indexing request, the site or URL pattern needs to be listed in the "Sites to search section" found in the Basics tab of the Setup section in the CSE configuration. Crawling and indexing may not happen immediately.

Learn how to index individual URLs or URLs linked from a page with Google Search Console. Alternatively, learn how to create and submit a Sitemap with Google Search Console.

Source: https://support.google.com/customsearch/answer/4513925?hl=en

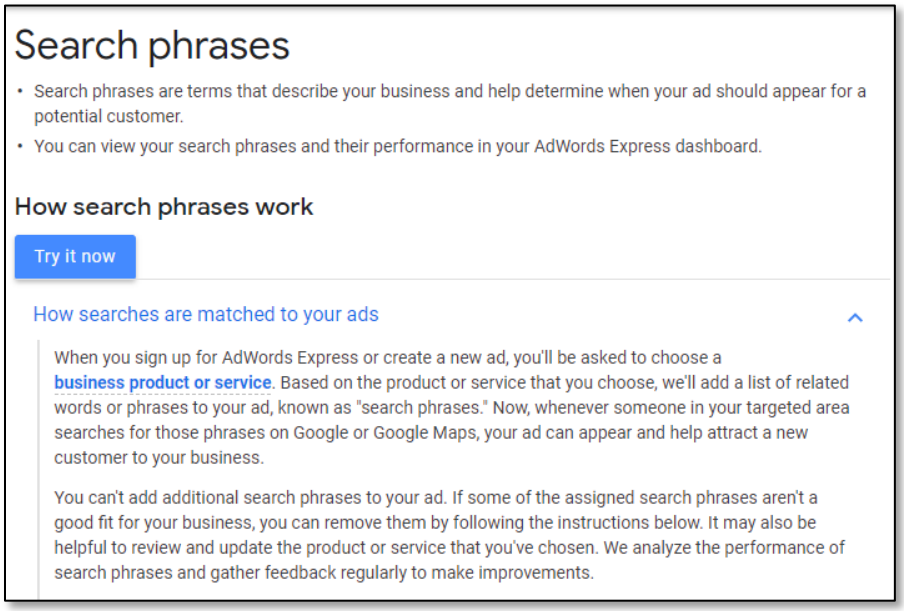


Analyzing your words

Understanding the meaning of your search is crucial to returning good answers. So to find pages with relevant information, our first step is to analyze what the words in your search query mean. We build language models to try to decipher what strings of words we should look up in the index.

This involves steps as seemingly simple as interpreting spelling mistakes, and extends to trying to understand the type of query you've entered by applying some of the latest research on natural language understanding. For example, our synonym system helps Search know what you mean, even if a word has multiple definitions. This system took over five years to develop and significantly improves results in over 30% of searches across languages.

Source: https://www.google.com/search/howsearchworks/algorithms/



Search phrases

- Search phrases are terms that describe your business and help determine when your ad should appear for a potential customer.
- You can view your search phrases and their performance in your AdWords Express dashboard.

How search phrases work

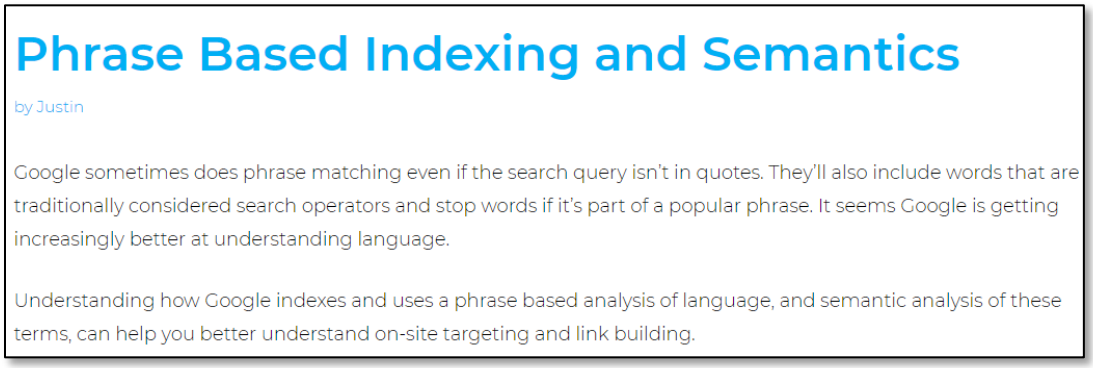
Try it now

How searches are matched to your ads

When you sign up for AdWords Express or create a new ad, you'll be asked to choose a business product or service. Based on the product or service that you choose, we'll add a list of related words or phrases to your ad, known as "search phrases." Now, whenever someone in your targeted area searches for those phrases on Google or Google Maps, your ad can appear and help attract a new customer to your business.

You can't add additional search phrases to your ad. If some of the assigned search phrases aren't a good fit for your business, you can remove them by following the instructions below. It may also be helpful to review and update the product or service that you've chosen. We analyze the performance of search phrases and gather feedback regularly to make improvements.

Source: https://support.google.com/adwords/express/answer/2481432?hl=en



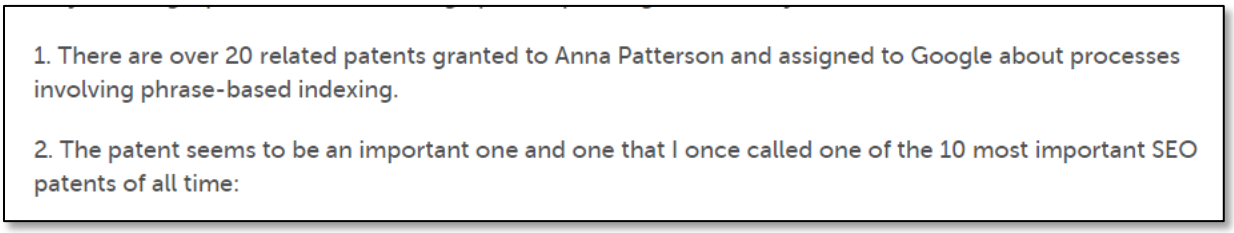
Phrase Based Indexing and Semantics

by Justin

Google sometimes does phrase matching even if the search query isn't in quotes. They'll also include words that are traditionally considered search operators and stop words if it's part of a popular phrase. It seems Google is getting increasingly better at understanding language.

Understanding how Google indexes and uses a phrase based analysis of language, and semantic analysis of these terms, can help you better understand on-site targeting and link building.

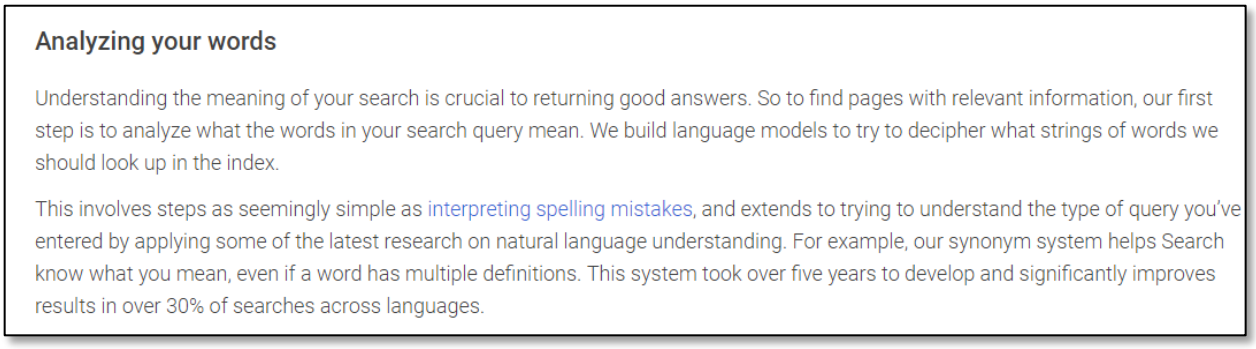
Source: https://www.briggsby.com/phrase-based-indexing-and-semantics



1. There are over 20 related patents granted to Anna Patterson and assigned to Google about processes involving phrase-based indexing.

2. The patent seems to be an important one and one that I once called one of the 10 most important SEO patents of all time:

Source: https://gofishdigital.com/phrase-based-indexing-updated/



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Source: https://www.google.com/search/howsearchworks/algorithms/,

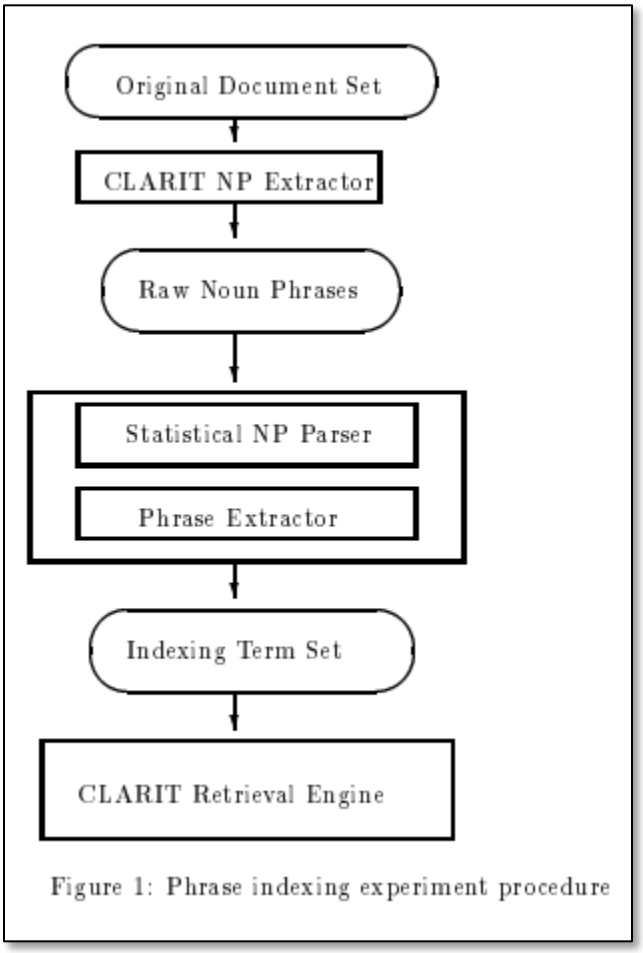
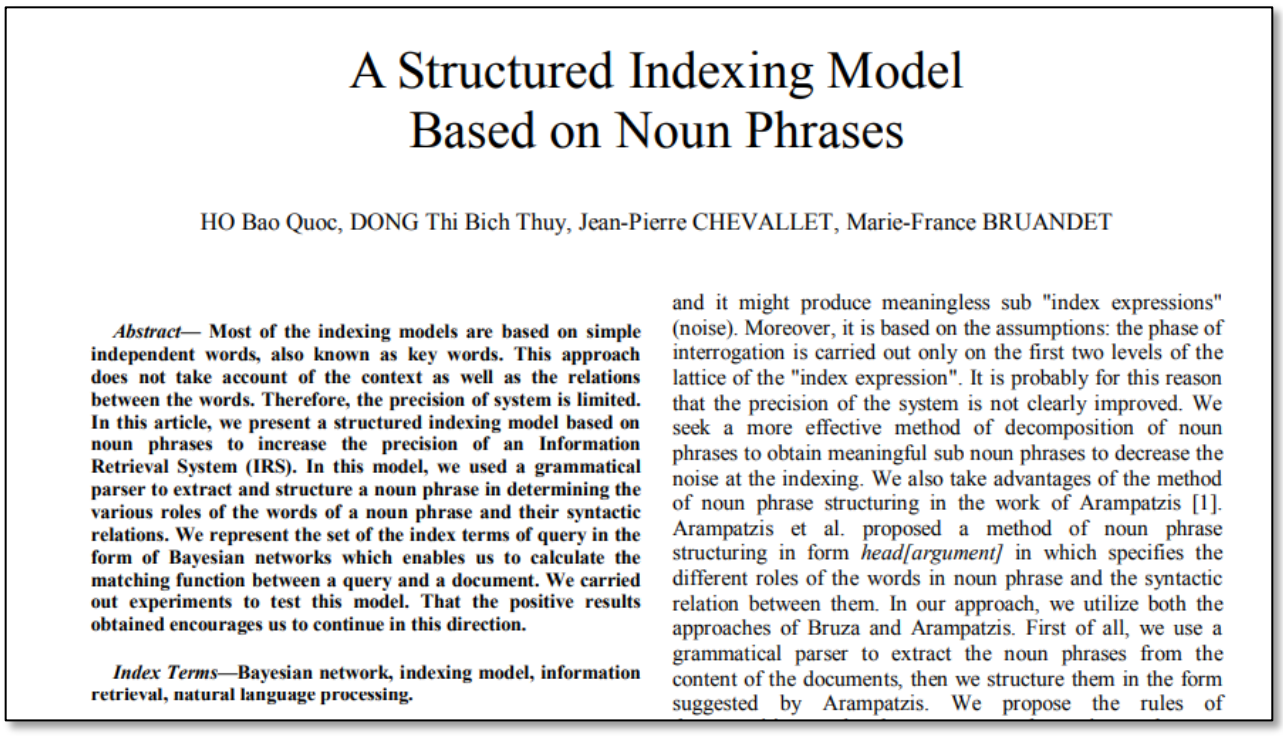


Figure 1: Phrase indexing experiment procedure

Source: http://sifaka.cs.uiuc.edu/czhai/pub/anlp1997-npparse.pdf



A Structured Indexing Model Based on Noun Phrases

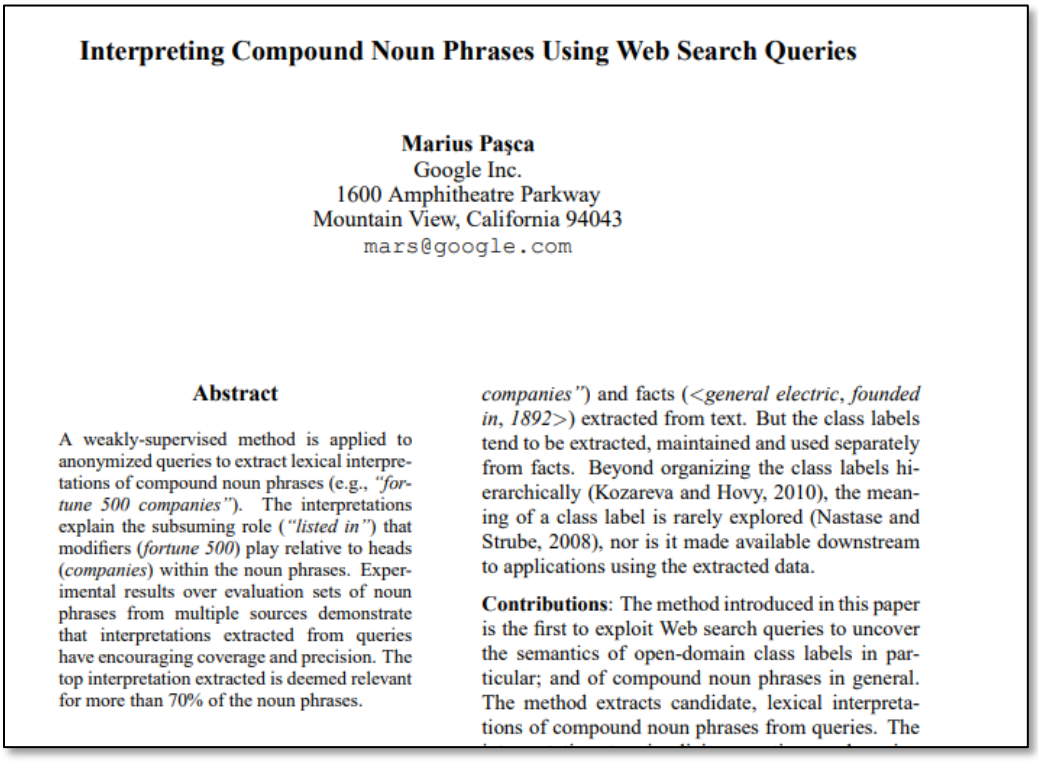
HO Bao Quoc, DONG Thi Bich Thuy, Jean-Pierre CHEVALLET, Marie-France BRUANDET

***Abstract*— Most of the indexing models are based on simple independent words, also known as key words. This approach does not take account of the context as well as the relations between the words. Therefore, the precision of system is limited. In this article, we present a structured indexing model based on noun phrases to increase the precision of an Information Retrieval System (IRS). In this model, we used a grammatical parser to extract and structure a noun phrase in determining the various roles of the words of a noun phrase and their syntactic relations. We represent the set of the index terms of query in the form of Bayesian networks which enables us to calculate the matching function between a query and a document. We carried out experiments to test this model. That the positive results obtained encourages us to continue in this direction.**

***Index Terms*—Bayesian network, indexing model, information retrieval, natural language processing.**

and it might produce meaningless sub "index expressions" (noise). Moreover, it is based on the assumptions: the phase of interrogation is carried out only on the first two levels of the lattice of the "index expression". It is probably for this reason that the precision of the system is not clearly improved. We seek a more effective method of decomposition of noun phrases to obtain meaningful sub noun phrases to decrease the noise at the indexing. We also take advantages of the method of noun phrase structuring in the work of Arampatzis [1]. Arampatzis et al. proposed a method of noun phrase structuring in form *head[argument]* in which specifies the different roles of the words in noun phrase and the syntactic relation between them. In our approach, we utilize both the approaches of Bruza and Arampatzis. First of all, we use a grammatical parser to extract the noun phrases from the content of the documents, then we structure them in the form suggested by Arampatzis. We propose the rules of

Source: https://ieeexplore.ieee.org/document/1696423



Interpreting Compound Noun Phrases Using Web Search Queries

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Abstract

A weakly-supervised method is applied to anonymized queries to extract lexical interpretations of compound noun phrases (e.g., *"fortune 500 companies"*). The interpretations explain the subsuming role (*"listed in"*) that modifiers (*fortune 500*) play relative to heads (*companies*) within the noun phrases. Experimental results over evaluation sets of noun phrases from multiple sources demonstrate that interpretations extracted from queries have encouraging coverage and precision. The top interpretation extracted is deemed relevant for more than 70% of the noun phrases.

companies") and facts (<*general electric*, *founded in*, *1892*>) extracted from text. But the class labels tend to be extracted, maintained and used separately from facts. Beyond organizing the class labels hierarchically (Kozareva and Hovy, 2010), the meaning of a class label is rarely explored (Nastase and Strube, 2008), nor is it made available downstream to applications using the extracted data.

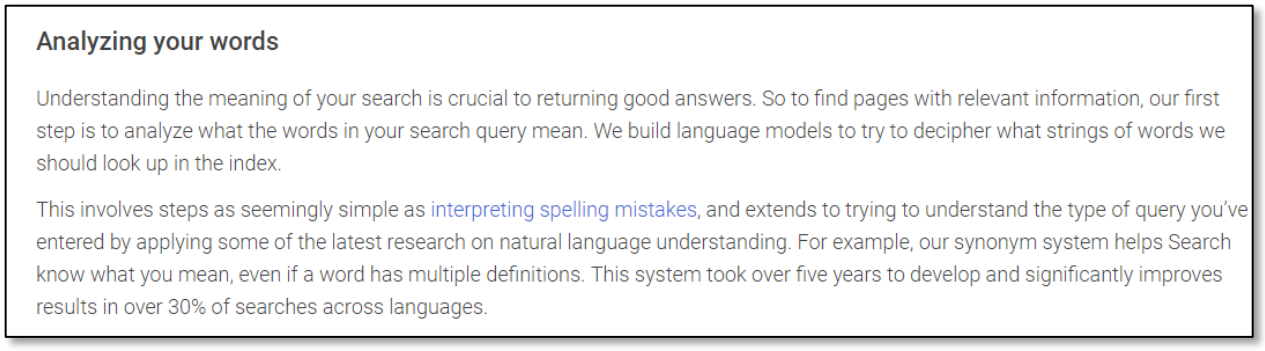
Contributions: The method introduced in this paper is the first to exploit Web search queries to uncover the semantics of open-domain class labels in particular; and of compound noun phrases in general. The method extracts candidate, lexical interpretations of compound noun phrases from queries. The

Source: https://pdfs.semanticscholar.org/5c85/74d6c4499ce24442014b7f76c594a57c98dd.pdf,

27. Google search involves a keyfact retrieving step for receiving said keyfact of said

user query and said keyfacts of said document collection and defining a keyfact retrieval model in consideration of weigh factors according to a keyfact pattern and generating a retrieval result.

28. Google search engine analyses user query using natural language understanding and language models to decipher the string of words to be looked up in the index. Natural language understanding involves extraction of phrases from unstructured text (in the form of user query) based on syntactic and morphological analysis using dependency tree and syntactic relationships. Based on the syntactic analysis and relationships, Google search finds the right meaning of user query and deciphers what string of words to be used for index lookup to retrieve the best matching documents from the web.



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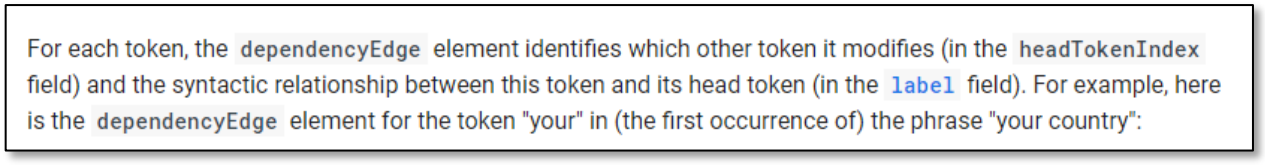
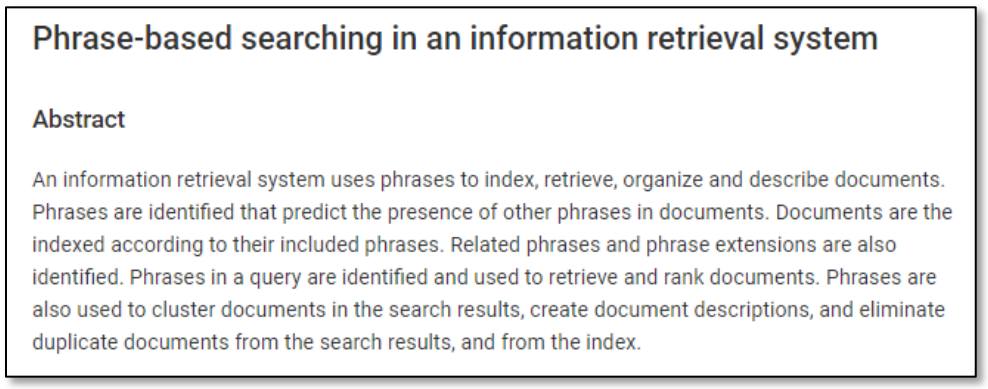
Source: https://www.google.com/search/howsearchworks/algorithms/



For each token, the `dependencyEdge` element identifies which other token it modifies (in the `headTokenIndex` field) and the syntactic relationship between this token and its head token (in the `label` field). For example, here is the `dependencyEdge` element for the token "your" in (the first occurrence of) the phrase "your country":

Source: https://cloud.google.com/natural-language/docs/morphology



Phrase-based searching in an information retrieval system

Abstract

An information retrieval system uses phrases to index, retrieve, organize and describe documents. Phrases are identified that predict the presence of other phrases in documents. Documents are the indexed according to their included phrases. Related phrases and phrase extensions are also identified. Phrases in a query are identified and used to retrieve and rank documents. Phrases are also used to cluster documents in the search results, create document descriptions, and eliminate duplicate documents from the search results, and from the index.

Source: https://patents.google.com/patent/US9990421B2/en?oq=9%2c990%2c421

29. Google has directly infringed and continues to directly infringe one or more claims of the '908 Patent in the United States during the pendency of the '908 Patent, including at least claim 6 literally and/or under the doctrine of equivalents, by or through making, using, offering for sale and/or selling the Accused Infringing Devices that operate as described above.

30. Google has indirectly infringed and continues to indirectly infringe at least claim 6 of the '908 Patent in this judicial district and elsewhere in the United States by, among other things, actively inducing the using, offering for sale or sell1ing the Accused Infringing Devices. Google's customers who use such devices in accordance with Google's instructions directly infringe one or more of claims of the '908 Patent in violation of 35 U.S.C. § 271. Google directly and/or indirectly intentionally instructs its customers to infringe through training videos, demonstrations, brochures, installation and/or user guides such as those located at one or more of the following:

- www.google.com
- https://www.google.com/search/howsearchworks/
- https://www.google.com/search/howsearchworks/algorithms/
- https://googleblog.blogspot.com/2010/01/helping-computers-understand-language.html,
- https://arxiv.org/pdf/1603.07012.pdf
- https://cloud.google.com/natural-language/

- http://www.coolheadtech.com/blog/text-analysis-with-google-cloud-natural-language-processing,
- https://medium.com/activewizards-machine-learning-company/comparison-of-the-most-useful-text-processing-apis-e4b4c1e6626a
- https://cloud.google.com/natural-language/docs/basics
- https://cloud.google.com/natural-language/docs/morphology

31. Google has indirectly infringed and continues to indirectly infringe at least claim 6 of the '908 Patent by, among other things, contributing to the direct infringement by others including, without limitation customers using the Accused Infringing Devices, by making, offering to sell, selling and/or importing into the United States, a component of a patented machine, manufacture or combination, or an apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in infringing the '908 Patent and not a staple article or commodity of commerce suitable for substantial non-infringing use.

32. Google will have been on notice of the '908 Patent since, at the latest, the service of this complaint upon Google. By the time of trial, Google will have known and intended (since receiving such notice) that its continued actions would actively induce and contribute to the infringement of one or more of claims of the '908 Patent.

33. Google may have infringed the '908 Patent through other devices, systems, and software utilizing the same or reasonably similar functionality as described above. Uniloc reserves the right to discover and pursue all such additional infringing software and devices.

34. Uniloc has been damaged by Google's infringement of the '908 Patent.

PRAYER FOR RELIEF

Uniloc requests that the Court enter judgment against Google as follows:

(A) declaring that Google has infringed the '908 Patent;

(B) awarding Uniloc its damages suffered as a result of Google's infringement of the '908 Patent pursuant to 35 U.S.C. § 284;

(C) awarding Uniloc its costs, attorneys' fees, expenses and interest; and

(D) granting Uniloc such further relief as the Court may deem just and proper.

DEMAND FOR JURY TRIAL

Uniloc hereby demands trial by jury on all issues so triable pursuant to Fed. R. Civ. P. 38.

Dated: December 31, 2018

Respectfully submitted,

By: /s/ James L. Etheridge

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Texas Bar No. 24036997
Brett A. Mangrum
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